

# ***GALLIPOLIS LOCKS AND DAM***

**OHIO RIVER BASIN**

**MASON COUNTY, WV**



**FOUNDATION REPORT**

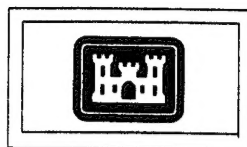
**VOLUME 3 CORE LOGS**

**CONSTRUCTION OF TWO PARALLEL LOCKS AND CANAL**

**CONTRACT DACW-69-88-C-0001**

**23 JANUARY 1993**

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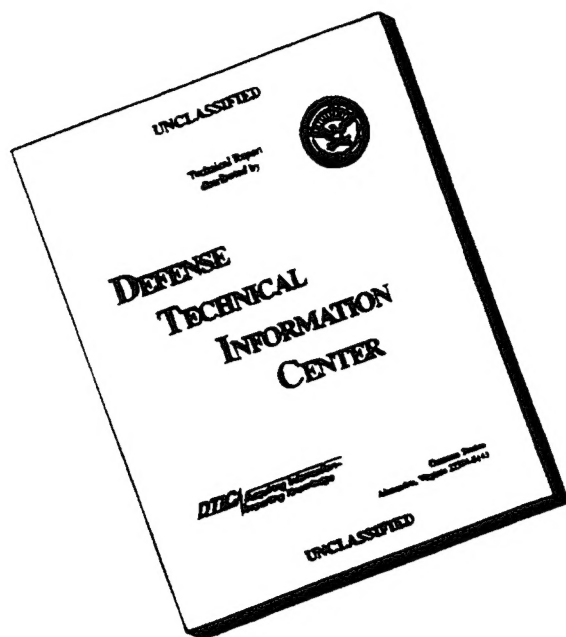


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**HUNTINGTON DISTRICT**

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# **Gallipolis Locks**

## **Replacement**

Ohio River Basin

Mason County West Virginia

## **Foundation Report**

Volume III

Core Logs

Construction of Two Parallel Locks and Canal

Contract No. DACW69-88-C-0001

Huntington District

U.S. Army Corps of Engineers

Huntington West Virginia

March 1992

# Gallipolis Lock Replacement

Ohio River Basin

Mason County W.V.

Foundation Report  
Volume 3 Core Logs

<u>Description</u>	<u>Page No.</u>
Outlet Structure Core Logs.....	1-6
River Inlet Core Logs.....	7-14
Land Culvert Core Logs.....	15-36
Middle Culvert Core Logs.....	37-42
River Culvert Core Logs.....	43-50
Downstream Approach wall Core Logs.....	51-99
Upstream Approach Wall Core Logs.....	100-235
River wall Core Logs.....	236-439
Middle Wall Core Logs.....	440-635
Land Wall Core Logs.....	636-753
Sill Core Logs.....	754-761
Exp.I and II Logs after grouting.....	762-765

## Abbreviations

Ang.	Angular	H.	Hardness	Rot.	Rotten (ed)
Appro.	Approximate(ly)	Hi.	High(iy)(er)	Rou.	Round(ed)
Bd.	Bed(ded)(ing)	Hor.	Horizontal(iy)	Rt.	Root(s)(let)
Bk.	Black	Inc.	Inclusions	S.	Soft
Bkn.	Broken	Intbd.	Interbedded	Sa.	Sandy
Bou.	Boulder(s)	Irr.	Irregular	Scat.	Scattered
Bre.	Breccia(ted)			Se.	Seams
Br.	Brown	Jt.	Joint(ed)	Sev.	Severely
				Sevr.	Several
C.	Coarse	L.	Little	Sh.	Shaly
Cal.	Calcareous	Las.	Laminat(ions)(ed)	Sil.	Siliceous
Carb.	Carbonaceous	Lay.	Layer(s)	Sl.	Silty
Cbl.	Cobble(y)	Len.	Lens(es)	Sli.	Slight(ly)
Cl.	Clayey	Lg.	Large	Slk.	Slickensided
Comp.	Compaction	Lt.	Light	Sm.	Small
Conc.	Concretion			So.	Some
Cong	Conglomeratic	M.	Moderately	Sol.	Solution
Cem.	Cement(ed)	Ma.	Many	Sta.	Stain(ed)
		Mas.	Massive(ly)	Stf.	Stiff
Dia.	Diameter	Mat.	Material	Stks.	Streak(s)
Disc	Discontinuous	Mic.	Micaceous	Sty.	Stylolite
Dk.	Dark	Mos.	Mostly		
Dn.	Dense	Mot.	Mottled	T.	Thin
Dmp.	Damp	Mot.	Moist	Thr.	Throughout
		Mtx.	Matrix	Tk.	Thick
F.	Fine			Tr.	Trace
Fer.	Ferruginous	Nod.	Nodule(s)		
Fis.	Fissile	Num.	Numerous	Ve.	Very
Fil.	Filled(ing)			Ver.	Vertical
Fos.	Fossil(iferous)	O.	Open	Vu.	Vuggy
Frac.	Fracture(d)	Occ.	Occasional(ly)		
Frag.	Fragment(s)(al)	Org.	Organic	W.	Water
Fri.	Friable			/W.	With
F.W.	Free Water	Part.	Particle(s)	W.C.	Water Content
		Pl.	Plastic	Wd.	Weathered
G.	Grain(ed)	Peb.	Pebble(s)		
Gn.	Green	Pkt.	Pocket(s)	Xbd.	Cross Bedded
Gr.	Gray	Pn.	Plane(s)		
Gra.	Gravelly	Pt.	Part	Y.	Yellow
G.W.	Ground Water	Pyr.	Pyrite(ic)		
				Zo.	Zone
		R.	Red		
		Ro.	Rock(s)		

## Rock

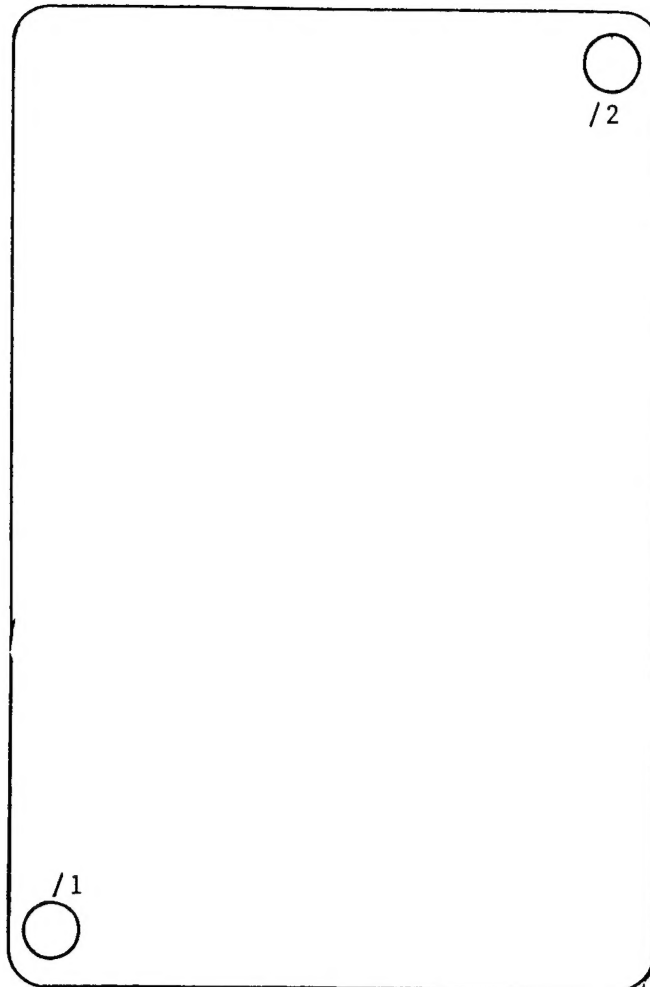
### Symbols

<u>Symbol</u>	<u>Name</u>	<u>Abbreviation</u>
	Sandstone	SS.
	Conglomerate	CONG.
	Shale	SLS.
	Claystone	CLS.
	Limestone	LS.
	Coal	C.
	Indurated Clay	ICL.
	Dolomite	DO.

### Hardness

Very soft or plastic	- Can be indented easily with thumb
Soft	- Can be scratched with fingernail
Moderately Hard	- Can be scratched easily with a knife; cannot be scratched with finger-nail
Hard	- Difficult to scratch with a knife
Very Hard	- Cannot be scratched with a knife

# Core Hole Layout in a Monolith



Example A. R-34/2 The R-34 is the Monolith Number. The /2 shows the location of the Core Hole in the Monolith. Reference the Drawing on this page for core hole locations.





DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 495.4		Hole No. 05/1	
PROJECT GALLIPOLIS LOCKE DAM			INSTALLATION ORN-CD		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #6 START 10:30 END 11:10 TIME 40min DEL 40min RAW 4.6 REC 4.1
	21		SLY, PIG, M.H., M.G.R. W/OCC M.G.R. SLY LAM. ZONES; CLOSE - M.SPACED SLY. PTYS START			
	22		@ 20.3: V. BKN 22.2-24.0 W/O.S.L.C (PROB MCH)		22.7	RAW 4.6 REC 4.1
	23		: 0.34C 24.0-24.3 (MCH)		Box 7	LOSS 0.5 UNAC 0.5 T/DEP 24.0 DEP 24.4
	24		GRADING			PULL #7 START 12:00 END 12:15 TIME 15min DEL 15min RAW 1.7 REC 1.4
470.7						LOSS .3 UNAC 0.3 DEP 24.9
	25		SANDSTONE			PULL #8 START 12:15 END 12:30 TIME 15min DEL 15min RAW 1.7 REC 1.4
	26		P.-M.G., M.H., H. H.-M.G.R		26.8	RAW 1.7 REC 1.4
	27		MIC, MASS W/OCC PTG		Box 8	LOSS .3 UNAC 0.3 DEP 24.9
	28		ALONG MIC LAM. 0.7			PULL #8 START 12:15 END 12:30 TIME 15min DEL 15min RAW 1.7 REC 1.4
	29		L.L.C (?) BTWN 25.1 & 30.2: M.SPACED PTGS		31.0	RAW 1.7 REC 1.4 LOSS .7 UNAC .7 DEP 30.8
	30		ON NEAR HOR. TAIN			PULL #9 START 12:42 END 12:55 TIME 13min DEL 13min RAW 4.5 REC 4.5
	31		MID LAM STARTING @		Box 9	LOSS 0 UNAC 0 DEP + T/DEP 35.7 PULL #10
	32		31.0.			START 1:00 END 1:10 TIME 10min DEL 10min RAW 5.1 REC 4.8
	33				34.7	LOSS 0 UNAC 0 DEP 34.5 T/DEP 39.8
	34					PULL #11 START 1:30 END 1:45 TIME 15min DEL 15min RAW 4.7 REC 5.0
	35				Box 10	LOSS 0 UNAC 0 DEP 34.5 T/DEP 39.8
	36					PULL #11 START 1:30 END 1:45 TIME 15min DEL 15min RAW 4.7 REC 5.0
	37				38.5	LOSS 0 UNAC 0 DEP 34.5 T/DEP 39.8
	38				Box 11	LOSS 0 UNAC 0 DEP 34.5 T/DEP 39.8
	39					PULL #11 START 1:30 END 1:45 TIME 15min DEL 15min RAW 4.7 REC 5.0
	40				41.9	LOSS 0 UNAC 0 DEP 34.5 T/DEP 39.8
	41				Box 12	LOSS 0 UNAC 0 DEP 34.5 T/DEP 39.8
	42					PULL #11 START 1:30 END 1:45 TIME 15min DEL 15min RAW 4.7 REC 5.0
	43				44.9	LOSS 0 UNAC 0 DEP 34.5 T/DEP 39.8
	44				CONT	(CONT)

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCKE DAM		7954		OS/1		
		BRH-CD		3 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SANDSTONE		Box 12	DEP + T DEP 44.5
450.0	45		BOTTOM HOLE			PULLER START 2:15 END 2:28 TIME 13 min LOSS — DEL 13 min UNAL — RMN — REL 2.5
	46					DEP + T DEP 47.0
	47					
	48					
	49					
	50					

DRILLING LOG		DIVISION	INSTALLATION	SHEET		
1. PROJECT GALLI POLIS LOCK & DAM		00D	DRH-CD	1 OF 3 SHEETS		
2. LOCATION (Coordinate or Station) MONO 05-2 STA 17+15.34 B		10. SIZE AND TYPE OF BIT 4 1/2" S				
3. DRILLING AGENCY W.G. JAMES		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.				
4. HOLE NO. (As shown on drawing title and file number) 05-2		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE				
5. NAME OF DRILLER DAVID HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES 13				
7. THICKNESS OF OVERBURDEN 0 495.0		15. ELEVATION GROUND WATER N/A				
8. DEPTH DRILLED INTO ROCK 45.8		16. DATE HOLE STARTED 4/27/89 COMPLETED 7/28/89				
9. TOTAL DEPTH OF HOLE 449.2		17. ELEVATION TOP OF HOLE 495.0				
		18. TOTAL CORE RECOVERY FOR BORING 45.8				
		19. SIGNATURE OF INSPECTOR JMD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
495.0			SANDSTONE			PULL #1
494.1			F.G. sly, m.h., m.gr. sls 0.6			START 7:20
			-0.2 TRP CONTACT			END 7:30
	1		SANDSTONE			TIME 10 MIN
	2		F.M.G., 17. M.G.R. M. P. H		1	DEL 10 MIN
	3		MASS., W/CHRT THIN MIC			RAN 4.8
	4		LAM M.G.R. sly incl			REC 4.8
	5		STARTING @ 5.7		3.8	LOSS 0
	6					UNACCL 0
488.8						DEP 5.0 TIDE 24.8
	7		Interbedded CLS & SS. incl			PULL #2
	8		S.-m.h., m.-dk.gr., ss.-		2	START 7:45
	9		F.G. m.h. f.-m.gr			END 8:00
	10		0.1 LC (mch) btwn 4.8		2.5	TIME 15 MIN
	11		+ 9.8 CLS SE @ 6.2			DEL 15 MIN
	12		- 7.5 ; 12.3-13.1 ; 18.2-			RAN 5.0
	13		21.5		3	REC 4.9
	14					LOSS 0.1
	15					UNACCL 0.1
	16					DEP 10.0 TIDE 27.8
	17					PULL #3
	18				4	START 9:30
	19					END 9:40
	20					TIME 10 MIN
	21					DEL 10 MIN
	22				4	RAN 4.2
	23					REC 4.2 UNACCL 0
	24					LOSS 0
	25					TIDE 27.8 DEP 19.0
	26				5	PULL #4
	27					START 9:50
	28					END 10:05
	29					TIME 15 MIN
	30				5	DEL 15 MIN
	31					RAN 4.9
	32					REC 4.9
	33					LOSS 0
	34				6	UNACCL 0
	35					TIDE 27.8 DEP 19.0
	36					PULL #5
	37					(CONT)
	38					(CONT)

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK DAM		ORH-CD		2		
OF 3 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
473.5	20		Interbedded clay ss		6	PULL #5 START 10:10 END 10:20 TIME 10min DRL 10min TIDE 21.5
	21				7	RAN 2.7 REC 2.7 LOSS 0 UNACCD DEP 23.7 PULL #6
	22		SANDSTONE			
	23		sg: sly lky, m.g.p, m.h			
	24		w/occ thin sly lam			
	25		becoming more			
	26		sa w/dpth d. l.c			
	27		C (mch) 29.6-33.9			
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					



DRILLING LOG		ORH2CD		OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK+DAN</b>		10. SIZE AND TYPE OF BIT <b>415H</b>		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L</b>	
2. LOCATION (Coordinate or Station) <b>MONO RT-1 STA 3+32.0</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>R-57 MOBILE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>	
3. DRILLING AGENCY <b>W.B. JACOBS</b>		14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>RI111</b>		16. DATE HOLE <b>2/27/89</b>		17. ELEVATION TOP OF HOLE <b>497.9</b>	
5. NAME OF DRILLER <b>DAVE HARPER</b>		18. TOTAL CORE RECOVERY FOR BORING <b>39.5</b>		19. SIGNATURE OF INSPECTOR <b>JMD</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		19. SIGNATURE OF INSPECTOR <b>JMD</b>			
7. THICKNESS OF OVERBURDEN <b>0 497.9</b>					
8. DEPTH DRILLED INTO ROCK <b>39.6</b>					
9. TOTAL DEPTH OF HOLE <b>462.8</b>					

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SANDSTONE			PULL #1
496.1	1		LTGR, M.H. F.M.G. LTFL STAIN FLASSY BG			START 9:25 END 9:37 TIME 12 MIN DPL 12 MIN RAN 5.0 REC 9.8 LOSS 0.2 UNAC 0.2 DCP+TIDP=5.0
	2		SLS		1	PULL #2
	3		GR, S-M, H, SH, OCC INTERR			START 9:42 END 9:56 TIME 14 MIN DPL 14 MIN RAN 3.6 REC 3.1 LOSS 0.5 UNAC 0.5 DCP 10.0
	4		W/LLS, CLS, GR, S, SH,		3.8	
	5		1.3-2.3, 3.4-3.6 6.5-7.3			
	6		RKN 8.7-9.2, 9.8-10.1, 12.8		2	PULL #3
	7		13.0-13.9-15.0, 29.0-29.2		7.9	START 10:03 END 10:17 TIME 14 MIN DPL 14 MIN RAN 5.0 REC 4.9 LOSS 0.1 UNAC 0.1 DCP 15.0
	8		RKN 1.3-1.5, SLSLS, 3.9-6.5			
	9		15.0-18.5, HIGH ANG		3	PULL #4
	10		FRAC 5.4-6.4 CLSLS			START 10:22 END 10:36 TIME 14 MIN DPL 14 MIN RAN 4.7 REC 4.7 LOSS 0.1 UNAC 0.1 DCP 18.6
	11		6-10W 22-23.0		11.5	
	12					
	13				4	PULL #5
	14					START 10:44 END 10:56
	15				15.1	
	16					
	17				5	
	18				18.7	
	19					
	20				6 (CONT)	



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6 Allipolis Lock + Dam			ORH-ED		2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS			PULL #5
	21				6	TIME 12min DRL 12min RAN 5.0 REC 4.3
	22				22.5	LOSS 0.2 UNACC 0.2 TIDP 22.8 DCP 23.3
	23					
	24				7	PULL #6 START 11:02 END 11:18 TIME 16min DRL 16min
472.6	25		ICL		26.1	RAN 4.3 REC 3.7 LOSS 0.6 UNACC 0.6 TIDP 27.1 DCP 27.8
	26		P. - BK, 5-M.H. SL. NUM.		8	PULL #7 START 11:25 END 11:45 TIME 20min DRL 20min
	27		SLS, BK, OCC NOTTED			
	28		W/GR - GNGR, CL		9	RAN 4.9 REC 4.9 LOSS 0 UNACC 0 TIDP 31.7 DCP 32.1
	29		CHKGR ABOVE 28.5, Slightly		29.7	PULL #8 START 12:45 END 12:58 TIME 13min DRL 13min RAN 2.5 REC 2.5 LOSS 0 UNACC 0 TIDP 34.9 DCP 34.6
	30		BKN 27.1-27.7, 31.1-31.8			
	31		SLT below 32.3		10	
	32				33.2	
	33					
	34				34.5	
462.9	35		Bottom Hole			
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		ORD		02H-CD		OF 2 SHEETS	
1. PROJECT GALLI POLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinates or Station) MONO RI-1 STA 3+87A				11. DAYUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) RI 112				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 9			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 2/27/89 COMPLETED 2/28/89	
7. THICKNESS OF OVERBURDEN 0 497.0				17. ELEVATION TOP OF HOLE 497.0			
8. DEPTH DRILLED INTO ROCK 33.8				18. TOTAL CORE RECOVERY FOR BORING 33.1			
9. TOTAL DEPTH OF HOLE 463.2				19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.0			SANDSTONE LT.GR., M.H. F.M.G. FLAGGY			PULL #1	
496.0			BD			START 1:15	
	2		SLS		1	END 1:26	
	3		GR, S-M.H, SH, OCC			TIME 11min	
	4		INTERBED W/CLS		3.5	DRL 11min	
	5		CLS, GR, S, SH 1.0-1.4			RAN 5.0	
	6		3.2-3.5, 13.0-13.6			REC 4.5	
	7		22.3-22.8, BKN 1.2-1.4		2	LOSS .5	
	8		9.1-9.3 BKN DNS 0.9			UNACQ 1.5	
	9		SPACING, BKN 0.2-0.1			D-P + TIDCP 5.0	
	10		W/LOC CLAY COATING		3	START 1:30	
	11		1.4-2.9, 6.3-6.8, 10.7-11.0			END 1:47	
	12		CL SLS 5.7-6.8 below		17.3	TIME 17min	
	13		22.8, SA SLS 13.6-15.7			DRL 17min	
	14		4.7-5.2		4	RAN 9.1	
	15					REC 9.1	
	16				3	LOSS 0 TIDCP 9.1	
	17					UNACQ 0	
	18					D-P 10.0	
481.3			SANDSTONE			PULL #3	
	19		GR, M.H. V.E.F.G. SAT		10.9	START 1:57	
	20					END 2:15	
	21					TIME 18min	
	22				4	DRL 18min	
	23					RAN 4.1	
	24					REC 4.1	
	25				14.3	LOSS 0 TIDCP 13.0	
	26					UNACQ 0	
	27					D-P 19.1	
	28					PULL #4	
	29				5	START 2:35	
	30					END 2:48	
	31					TIME 13min	
	32					DRL 13min	
	33					RAN 9.0 TID-P 17.0	
	34				17.8	REC 3.7 UNACQ 0.3	
	35					LOSS 0.3 D-P 18.0	
	36					PULL #5	
	37				6	START 2:53	
	38					END 3:10	
	39					TIME 17min	
	40				CONT	DRL 17min	
	41					RAN 3.5	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLI POLIS LOCK & DAM  
HOLE NO.  
RI 112

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS ROCKYDAM		ORH-1D		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS			PULL#5 REL 2.6 LOSS 0.9 UNACL 0.9 T/D P 22.0
	21				6	
	22				22.2	PULL#6
	23					START 7:20 END 7:45 TIME 25min DPL 25min RAW 5.0 REL 5.0 LOSS 0 UNACL 0 T/D P 25.3
472.9	24				7	
	25		ICL		25.5	PULL#7
	26		P.B.R. S.-M.H. SA, NUM			START 8:00 END 8:15 TIME 13min DPL 13min RAW 3.9 REL 3.5 LOSS 0.9 UNACL 0.9 T/D P 29.9
	27		SLK, BLN MOTTLED W/		8	
	28		GR-S.N.G.R., DKGR ABOVE			
	29		25.8		29.9	
	30					PULL#8
	31				9	START 8:23 END 8:43 TIME 20min DPL 20min RAW 3.7 REL 2.7 LOSS 0 UNACL 0 T/D P 33.1
463.9	32		BOTTOM HOLE		33.1	
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OEN-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		6ALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4 X 5.5"	
3. DRILLING AGENCY		MONO RT 3 STA 4792 A		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. 6. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		RI 311		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		WAYNE TICE		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 497.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.5		16. DATE HOLE		STARTED 3/1/89 COMPLETED 3/1/89	
9. TOTAL DEPTH OF HOLE		463.4		17. ELEVATION TOP OF HOLE		497.9	
				18. TOTAL CORE RECOVERY FOR BORING		39.5	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.9			SANDSTONE			FULL #1	
497.3			f. m. g. m. h. s. t. b. r. j. r.				
	1		CLS/SLs		Box 1	START 1:30	
	2		s. - m. h. m. - dk. gr			END 1:40	
	3					TIME 10 min	
						DRL 10 min	
494.1					3.8	RAW 5.1	
	4		SANDSTONE			REC 5.1	
492.8	5		shy, f. g. m. h. m. dk. gr			LOSS 0	
	6		CLS		Box 2	UNACC 0 DEP 5.1	
	7		shy, m. - dk. gr, s. m. h.			FULL #2	
	8		w/SCAT 3 m - m. nod			START 1:50	
	9				7.5	END 2:00	
	10					TIME 10 min	
487.1						DRL 10 min UNACC 0	
	11		SLs/CLS		Box 3	RAW -	
	12		s. - m. h. m. - dk. gr, occ shy			REC 4.9	
	13		ANG PTG. w/SLK @ 2.7			LOSS 0	
484.9						DEP 9.8	
	14		SS		10.8	FULL #3	
483.4			shy, f. g. m. h. m. gr			START 2:10	
	15		CLS/SLs			END 2:15	
	16		s. - m. h. m. - dk. gr, m. ts, shy		Box 4	TIME 5 min	
481.0			w/occ sand. med. fine			DRL 5 min	
	17		SANDSTONE		19.5	RAW -	
	18		shy, f. g. m. h. m. gr. o. news to			REC 4.8	
479.5			UCET - TRAC 16.9 - 17.6 SPAD. NG			LOSS 0	
	19		SLs			UNACC 0	
	20		shy, occ ss, s. - m. h. m. gr. w/		Box 5	DEP 19.6	
			SUN NOD 6 S2 LENS SPAD. NG			FULL #4	
						START 2:20	
						END 2:40	
						TIME 20 min	
						DRL 20 min	
					19.0	RAW -	
					Box 6	REC 5.1	
						LOSS 0	
						UNACC 0	
					(CONT)	CONT	

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.9	Hole No. RI 3/1		
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS (CONT)		Box 6	DEP 20.1 PULL #5 START 2:45 END 2:55 TIME 10 MIN DPL 10 MIN PAN — REC 5.0 LOSS 0 UNACC 0
470.8	22		CLS S-m.b, m-dk. gr w/loc SM. nod. graning		Box 7	DEP 25.1 PULL #6 START 3:00 END 3:15 TIME 15 MIN DPL 10 MIN PAN — REC 5.0 LOSS 0 UNACC 0
473.9	23					
	24					
	25		ICL GREENISH GR. R-BX. S-m.b, SLK graning R.BX 2 2:7		Box 8	PULL #7 START 3:30 END 3:50 TIME 20 MIN DPL 20 MIN PAN — REC 4.9 LOSS 0 UNACC 0
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
463.9	34		NO TOP. HOLE		Box 10	DEP 34.5
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT		ORD		OPH-CD			
2. LOCATION (Coordinates or Station)		BALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4 VS 8"			
3. DRILLING AGENCY		MDNO RT 2 STA 3+87A		11. DAYUM FOR ELEVATION SHOWN (FEET or METER)		M.S.L	
4. HOLE NO. (As shown on drawing title and file number)		W. 6 JABUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		DAVID HARPER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 497.0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		33.8		16. DATE HOLE		STARTED 3/1/89 COMPLETED 3/1/89	
9. TOTAL DEPTH OF HOLE		463.2		17. ELEVATION TOP OF HOLE		497.0	
				18. TOTAL CORE RECOVERY FOR BORING		33.8	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0			SANDSTONE			PULL #1	
495.7	1		f.m.g., m.h. sta. b.e.gr thin-m. bed. 0.1 LC 0.0-0.1		Box 1	START 1:00 LOSS 0.1 END 1:10 UNACCL 0.1 TIME 10 min DRL 10 min RAN 9.1 REC 4.0	
495.0	2		CL gr. s. PAT SLs			DEP 9.1 T/DEP 9.0	
493.8	3		ss, s.-m.h., m.gr. IRRUCAT HLD PRUC 2.0-2.8 CLS		3.8	PULL #2	
493.0	4		shy, s.-m.h., m.d.kgr			START 1:18 END 1:30 LOSS 0.3 TIME 12 min UNACCL 0.3 DRL 12 min RAN 3.0 REC 2.7 T/DEP 6.7 DEP 8.0	
492.9	5		SS. lens CL gr. s. (1.2 L.C.)		Box 2	PULL #3	
491.6	6		SANDSTONE			START 1:37 END 1:53 TIME 16 min DRL 16 min RAN 5.0 REC 3.5 LOSS 1.5 UNACCL 1.5	
	7		shy, f.g. m.h., m.gr. bkn QUERT JT. 7.9-8.0			T/DEP + DEP 13.0 PULL #4	
489.0	8		SLs		Box 3	START 1:58 END 2:12 TIME 14 min DRL 14 min RAN 5.0 REC 5.0 LOSS 0 UNACCL 0	
	9		s.-m.h., m.gr. UE bkn (1.5 LC)			DEPT + T/DEP 18.0 PULL #5	
486.6	10		SANDSTONE		Box 4	START 2:18 END 2:33 TIME 15 min DRL 15 min (CONT)	
	11		shy, f.g. m.h., m.gr.				
	12		CLS		Box 5		
483.7	13		shy, shy, s.-m.h. m.d.kgr.				
482.7	14		SANDSTONE				
	15		ue.shy, f.g., m.h., m-dk				
	16		gr. MASS grading				
	17						
	18						
	19						
	20						



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.0	Hole No. PI 2/1		
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION OEH-CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.6	20		SANDSTONE			PULL #5
	21		SKS Ss, S-m.h., m.-dk.gr, PTS shy 0.2LC bTWN 21.2-22.0		Box 6	RAN 4.0 REC 3.1 UNACC 0.2 LOSS 0.2
475.1	22		CLS/SKS			DEP=22.0 PULL #6
	23		shy, S.-m.h., m.-dk.gr.			START 2:40 END 2:52
473.2	24		ICK		23.6	TIME 12min DRL 12min
	25		S.-mh, GREENISH GR-R.		Box 7	RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	26		br., SLK; becoming r.br			DEP 27.0 PULL #7
	27		@ 27.0 1.6 L.C bTWN 27.0			START 3:00 END 3:15 TIME 15min
	28		31.6			DRL 15min
	29				Box 8	RAN 4.6 REC 3.0 LOSS 1.6 UNACC 1.6
	30					DEP 31.6 PULL #8
	31				32.0	START 3:23 RAN 2.2 END 3:38 REC 2.2 TIME 15min LOSS 0 DRL 15min UNACC 0
463.2	32		BOTTOM HOLE		Box 9	DEP 32.8
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 3 SHEETS	
2. LOCATION (Coordinates or Station)		Gallipolis Lock & Dam 15+26.5 B		10. SIZE AND TYPE OF BIT		4 X 5 1/2	
3. DRILLING AGENCY		MEND. LC5 STATION		11. DAYUM FOR ELEVATION SHOWN (TBM - HLL)		N.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		LC5/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B Mobile	
5. NAME OF DRILLER		Steve Fry		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED Na UNDISTURBED Na	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0-497		15. ELEVATION GROUND WATER		Na	
8. DEPTH DRILLED INTO ROCK		450		16. DATE HOLE		STARTED 11-28-88 COMPLETED 11/28/88	
9. TOTAL DEPTH OF HOLE		47		17. ELEVATION TOP OF HOLE		497	
				18. TOTAL CORE RECOVERY FOR BORING		46.8 %	
				19. SIGNATURE OF INSPECTOR		Mike Neal	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		SS lt. gr. med. hd, med. to f. 9" mic mech. bkt. 492.9 to 492.4		1	Pull #1 START 8:21 End 8:31 TIME 10 DRI 10 Ran 4.4 REC 4.6 LOSS 0 Unacc 0	
	2						
	3						
	4				38		
	5					TI Depth 4.6 TP Depth 4.9	
	6				2	Pull #2 START 8:49 End 8:56 TIME 7 DRI 7 Ran 2.8 REC 2.6 LOSS -0.2 Unacc 0	
489.8	7				7.2	TI Depth 7.2 TP Depth 7.4	
	8		ILL r. br. s cl. occ gr. CLS len, 11 gr. 489.8-489.5. Some core diameter loss to drill water			Pull #3 START 9:20 End 9:25 TIME 5 DRI 5 Ran 2.0 REC 2.0 LOSS 1.0 Unacc 0	
	9				3	TI Depth 9.4 TP Depth 9.5	
	10					Pull #4 START 10:01 End 10:07 TIME 6 DRI 6 Ran 2.3 REC 1.4 LOSS 0.7 Unacc 0	
486.9	11		CLS reddish br to gr. gr. s, sh. silt @ 486.3-485.8 some core diameter loss due to drill water		109	TI Depth 11.00 TP Depth 11.07	
	12					Pull #5 START 10:25 End 10:29 TIME 14 DRI 14 Ran 4.6 REC 2.5 LOSS 2.1 Unacc 0	
484.7	13		interbedded CLS r. br. to gr. r. s sh., silt @ 486.3 & 485.8 SLS. gr. s. to med. hd. sh. grad. sand toward bottom mech. acc. 487.2 to 479.6 483.8 to 483.7. 479.7. to 479.6		4	TI Depth 14.4 TP Depth 15.3	
	14		clay stain 478.7. 0.02 thick 478.2 0.05 thick		14.4		
	15					Pull #6 START 10:58 End 11:17 TIME 19 DRI 19 Ran 3.4 REC 4.4 LOSS 1.0 Unacc 0	
	16						
	17				5		
	18						
	19				18.5	TI Depth 18.5 TP Depth 18.7	
	20				6		

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(TRANSLUCENT)

PROJECT Gallipolis Locks & Dam HOLE NO. LC5/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	497		Hole No.	LC 511
PROJECT			INSTALLATION	ORH-CD		SHEET 2 OF 9 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
476.4						Pull # 7	
	21		SS gr. to lt gr mod		6	START 12.11	
	22		hd, mod. f. q. gradational		22.1	End 12.22	
	23		w/p @ top mod. q toward			Time 11	
	24		bottom cross bd.			Dr 1 11	
	25		Sh. scom @ 472.4. + 469.7			Ran 4.9	
	26		fc. sta bdd pl. @ 455.4.			Rec 4.1	
	27					Loss 0.8	
	28					Unacc	
	29					TIDEPH 21.8	
	30					TP Depth 23.6	
	31				7	Pull # 8	
	32					START 12.40	
	33				25.5	End 1.03	
	34					Time 15	
	35					Dr 1 10	
	36					Ran 4.7	
	37					Rec 7.4	
	38					Loss 0.7	
	39					Unacc 0	
	40					TIDEPH 28.6	
	41				29.2	TP Depth 30.6	
	42					Pull # 9	
	43				9	START 1.26	
	44					End 1.36	
	45					Time 10	
	46					Dr 1 10	
	47				32.8	Ran 9.6	
	48					Rec 8.8	
	49					Loss 0.8	
	50					Unacc 0	
	51				10	TIDEPH 37.0	
	52				36.6	TP Depth 39.9	
	53					Pull # 10	
	54				40.3	START 2.00	
	55					End 2.15	
	56					Time 15	
	57				12	Dr 1 15	
	58					Ran 9.0	
	59				43.4	Rec 9.8	
	60					Loss 0.8	
	61				13	TIDEPH 37.0	

# DRILLING LOG (Cont Sheet)

497

Hole No. LC 5/1

PROJECT		INSTALLATION		SHEET 3 OF 5 SHEETS		
Gallipolis Lock & Dam		ORH.C.D.				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	45					
	46					
450	47				47.0	TI depth 46.8
	48					
	49					TI depth 48.9
	50					

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PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
LC 5/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET 2 OF 5 SHEETS	
1. PROJECT <b>GALLIPOLIS Locks + DAM</b>		ORD		ORH-CD			
2. LOCATION (Coordinate or Station) <b>MONO STA</b>				10. SIZE AND TYPE OF BIT <b>4x5.5"</b>			
3. DRILLING AGENCY <b>W.G. JAGUES</b>				11. DATUM FOR ELEVATION SHOWN (TBM or MLL) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>LC-18/1</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B - MOBILE</b>			
5. NAME OF DRILLER <b>STEVE FRY</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>13</b>			
7. THICKNESS OF OVERBURDEN <b>495.0</b>				15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>38.9</b>				16. DATE HOLE		STARTED <b>1/11/89</b> COMPLETED <b>1/11/89</b>	
9. TOTAL DEPTH OF HOLE <b>496.1</b>				17. ELEVATION TOP OF HOLE <b>495.0</b>			
				18. TOTAL CORE RECOVERY FOR BORING <b>38.9</b>			
				19. SIGNATURE OF INSPECTOR <b>LMD</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.0			CLS			PULL #1
	1		DK. - M. GR, 5 - m.h.			START 6:05
			V. BKN. W/LS. ZO.			END 6:20
	2		0.0 - 3.9 W/1.6 LC.			TIME 15min
			U.S., GR., 5.4 -			DRL 15min
	3		6.9			RAN 5.0
						REC 2.8
	4					LOSS 1.6
						UNACC 0
	5					
						T/DEP 4.6
	6					DEP 5.0
					5.4	PULL #2
	7					START 6:30
						END 6:41
	8					TIME 11min
						DRL 11min
	9					RAN 4.6
						REC 3.5
	10					LOSS 0
						UNACC 0
						T/DEP 8.1
					8.9	DEP 9.6
					Box 3	PULL #3

PROJECT				ELEVATION TOP OF HOLE		Hole No.	
GALLIPOLIS LOCK & DAM				495.0		LC-18/1	
INSTALLATION				SHEET		OF 5 SHEETS	
ORH-CD				2		5	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
484.2	10		SANDSTONE		Box 3.	PULL # 3	
					CONT.	START 8:00	
						END 8:07	
						TIME 7 min	
						DRL 7 min	
						RAN 3.6	
						REC 4.2	
						LOSS 0	
					12.3	UNACC 0 T/DEP 12.3	
482.1	11		CLS			DEP 13.0	
			SLY, M. DK. GR.,			PULL # 4	
			S. - M. h. bkn.,		Box 4.	START 8:27	
			S. @ 12.9 CONTACT			END 8:41	
						TIME 14 min	
						DRL 14 min	
						RAN 4.3	
						REC 3.6	
						LOSS 0	
						UNACC 0	
					15.9	T/DEP 15.9	
	13		SLS			DEP 17.9	
			SA, M. h., M. GR		Box 5.	PULL # 5	
			MECH. PTS @ 17.4,			START 8:55	
			17.8, 18.4: bkn.			END 9:07	
			ALONG SMOOTH PTS			TIME 12 min	
			@ 19.1: WEA HOR			DRL 12 min	
			PTS. @ 20.1 & 20.5			RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
474.1	14				Box 6	DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	15					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	16					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	17					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	18					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	19					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	20					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	21					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	22					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	23					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	24					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	25					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	26					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	27					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	28					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	29					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	30					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	31					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	32					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	
						LOSS 0	
					19.7	UNACC 0	
	33					DEP 20.9	
						PULL # 6	
						START 8:55	
						END 9:07	
						TIME 12 min	
						DRL 12 min	
						RAN ?	
						REC 5.0	



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. LL-1811		
PROJECT		INSTALLATION		SHEET		
GALLI POLIS LOCK + DAM		ORH-CD		3 OF 5 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		SANDSTONE		Box 6.	
					22.8	
	23		SLY., f.g., m.h.,			PULL #6
			M.G.R. W/SLs ZOS			START 9:20
			HOR. PTG @ 21.7		Box 7.	END 9:37
	24		M. SPACED MECH.			TIME 17 min
			PTGS. THROUGHOUT			DRL 17 min
	25		SEV. OVERCORE AREAS			RAN ?
						REC 5.0
						LOSS 0.0
						KNALL 0.0
	26				26.6	
	27					
	28				Box 8	
	29					T/DEP 29.3
	30				30.3	DEP 30.5
	31					PULL #7
	32				Box 9.	
	33					
	34		(CONT)		34.0	(CONT.)

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK + DAM		ORH-LD		4 OF 5 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
34			SAND STONE			PULL #7
35			shy, F.g., m.h., m.gr			START 9:50
			W/SLS. ZOS. HOR.			END 10:05
						TIME 15 min
36			PTG @ 21.7 M.SPACED		Box 10.	DRL 15 min
			MECH. PFGS			RAN ?
						REC 10.2
						LOSS 0
						UNHCC 0
37			THROUGHT OUT. SEV			
			OVER CORE AREAS.			
					37.7	
38						
						T/DEP 38.7
39						
						DEP 39.3
					Box 11.	
40						PULL #8
						START 10:20
						END 10:35
						TIME 15 min
41						DRL 15 min
					41.4	RAN 10.2 (?)
						REC 9.6
						LOSS 0
42						UNHCC 0
43					Box 12.	
44						
45					45.2	
					Box 13	
46			(CONT)		CONT.	(CONT)

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 495.0		Hole No. LC-18/1		
PROJECT GALLIPOLIS LOCK DAM		INSTALLATION ORH-CD		SHEET 5 OF 5 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	46		SANDSTONE			Pull #8
	47				Box 13.	
	48					T/DEP 38.0
446.1			... BOTTOM HOLE		48.9	DEP 38.9
	49					
	50					

DRILLING LOG		DIVISION		INSTALLATION		OF 3 SHEETS	
1. PROJECT <i>Gallipolis Lock &amp; Dam</i>		ORD		ORH-CD			
2. LOCATION (Coordinate or Station) <i>STA 12+46.41</i>				10. SIZE AND TYPE OF BIT <i>U.S.L.</i>		11. DATUM FOR ELEVATION SHOWN (FTH or BSL)	
3. DRILLING AGENCY <i>W.G. JAGUES</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>"B" 53</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>LC. 24/1</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>NA</i> UNDISTURBED <i>NA</i>	
5. NAME OF DRILLER <i>David HARPER</i>				14. TOTAL NUMBER CORE BOXES <i>13</i>		15. ELEVATION GROUND WATER <i>NA</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <i>12/23/89</i>		STARTED <i>12/23/89</i> COMPLETED	
7. THICKNESS OF OVERBURDEN <i>497.1</i>				17. ELEVATION TOP OF HOLE <i>497.1</i>			
8. DEPTH DRILLED INTO ROCK <i>47.1</i>				18. TOTAL CORE RECOVERY FOR BORING <i>47.1</i> %			
9. TOTAL DEPTH OF HOLE <i>47.1</i>				19. SIGNATURE OF INSPECTOR <i>JET</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		SS gr. to lt. gr. mod. hd. med. to c. g. slightly mic. Sur. fr. staining 497.1-496.9 Cl. str. 496.1-496.0 (med. blk.) 488.8-488.6 (sh.)		1	Pull # 1 START END Time Dri Ran Rec Loss Unacc	
	2					TP 31	
	3				3.7		
	4					TI 4.6	
	5				2	Pull # 2 START END Time Dri Ran Rec Loss Unacc	
	6					TP 57	
	7				7.1		
	8					TI 7.8 Pull # 3 (TP 7.8)	
	9				3	START END Time Dri Ran Rec Loss Unacc	
	10					Pull # 4	
	11				10.7	START 9:05 END 9:35 Time 5 Dri 5 Ran 8.0 Rec 5.6 Loss 2 Unacc 0	
	12				4	TI & TP 12.8	
484.3	13		SLS. gr. to gn. gr. s to med. hd. grad. w/Cl @ top to s. @ bot interbedd CLS (gr s occ w/ fatty CL) 483.5-483.4, 483.3-483.0, 478.8-478.7		14.1	Pull # 5 TP 13.0 START 9:22 END 9:35 Time 13 Dri 13 Ran 4.4 Rec 0.9 Loss 0 Unacc 0	
	14		Sav. to mod blk. SLS. w interbedd CLS & fatty CL. w/ poss i.i. loss 483.0-480.3				
	15		fatty Cl seams 479.8, 479.5 479.0 blk. pl. w/ spacing		5	TI 17.8	
	16					Pull # 6	
	17				18.4	START 9:53 END 9:59 Time 8 Dri 8 TP 17.4 Ran 0.6 Rec 3.7 Loss 1.1 Unacc 1.1	
	18						
	19						

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PROJECT

*Gallipolis Lock & Dam*

HOLE NO.

*LC 24/1*

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 470.0		Hole No. LC 24/1	
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.7	21				21.1	Pull # 7 START 10.11 End 10.24 TP 20.7 Time 16 Dri 16 LOSS 0 Ran 9.5 UNACC 0 Rec 9.3 TI 21.3
	22		-			
	23		55. gr. to lt. gr. med. hd fine to med. gl. mic.		7	Pull # 8 START 10.44 End 11.00 Time 16 Dri 16 Ran 8.5 Rec 8.8 LOSS 0 UNACC 0
	24		few small hd. pyritic nod. a flake: 473.0 -			
	25		472.0 num. mic bdd. Pl. Char. 465.0 Cal cont 464.5 - 463.1		25.7	
	26		461.8 - 461.5 456.2 455.8 449.0 45.7			
	27				8	
	28					
	29				29.1	
	30					TI 29.8 TP 29.5
	31				9	Pull # 9 START 10.15 End 11.41 Time 26 Dri 26 Ran 1.7 Rec 1.7 LOSS 0 UNACC 0
	32				32.6	
	33					
	34				10	
	35					
	36				36.3	
	37					
	38					
	39				11	
	40				39.9	TI & TP 39.4 Pull # 10
	41					START - 12.45 End 1.07 Time 22 Dri 22 Ran 18.0 Rec 10.1 LOSS 0 UNACC 0
	42				12	
	43				43.4	

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 3 OF 5 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	45				13	
	46					
44.50	47				46.7	
	48					
449.3	49					TIE TP 49.5
	10					

<b>DRILLING LOG</b>		<b>DIVISION</b> ORP	<b>INSTALLATION</b> ORH-CD	<b>SHEET 11</b> OF 3 SHEETS
1. PROJECT Gallipolis Lock & Dam			10. SIZE AND TYPE OF BIT M 5 L	
2. LOCATION (Coordinates or Station) 114841			11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY W G JAGUES			12. MANUFACTURER'S DESIGNATION OF DRILL "B" 57	
4. HOLE NO. (As shown on drawing title and file number) 496.8			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER Norris			14. TOTAL NUMBER CORE BOXES 13	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 496.8			16. DATE HOLE STARTED 12-29-88 COMPLETED 12-29-88	
8. DEPTH DRILLED INTO ROCK 46.8			17. ELEVATION TOP OF HOLE 496.8	
9. TOTAL DEPTH OF HOLE 46.8			18. TOTAL CORE RECOVERY FOR BORING 46.8 %	
			19. SIGNATURE OF INSPECTOR JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SS lt gr. to gr. mod. hd. f to c. gr. mic. bkn pl w/ 0.3 spacing 496.8-495.0 c. gr. 492.2-490.1 / f to med g. above & below Clay stringers: 491.4-491.0 490.1. Cal. cent. 485.8. 483.0 mech chipped. 482.0-481.8			Pull #1 START 18.15 End 18.30 Time 15 Dri 15 Ran 5.0 Rec 5.1 Loss Unacc
	1				1	
	2				3.7	
	3					TI & TP 5.0
	4				2	Pull #2 START 18.35 End 19.05 Time 30 Dri 30 Ran 10.1 Rec 9.7 Loss Unacc
	5				7.1	
	6				3	
	7				10.7	
	8				4	
	9				14.3	
	10					TP 14.8
	11				5	Pull #3 START 19.15 End 19.45 Time 30 Dri 30 Ran 5.9 Rec 6.2 Loss Unacc
	12				17.9	
	13				6	
	14					
480.3	15		SLT gr. gr. s to med hd s. intbed w/ f g. ss below 480. SS gr. mod hd. f. g.			
479.7	16					
478.8	17		SLT gr to gr. gr. s to med hd. s. sh. to cl 478.5. 476.1 bkn 478.5-478.4			
477.9	18					
	19		SS			

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
Gallipolis Lock & Dam			ORH-CD		2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21		SS lt gr. med hd. f to med gr. mic		6	TL & TP 21.0
			sls stringers 474.6		21.5	Pull #4
	22		few occ small pyrite			START 20.30
			Nod. 477.9 475.5			End 21.00
	23		thin c/str. 472.5, -4723, 470.4		7	Time 30
			SI 472.5 - 472.3			Dri 30
	24		small CLS frag. 470.9			Ran 6.7
			cal cemented 465.9-465.8			Rec 7.2
	25		Num mic bdd pl. band.		25.1	LOSS 0
			462.8, 462.4, 461.6			UNACC 0
	26		461.5, 460.7-460.4			
	27		455.0 458.8, 452.0-451.9, 451.0		8	
	28					TP 27.7
						TL depth 28.2
	29				28.7	Pull #5
						START 21.55
	30					End 22.25
						Time 30
	31				11	Dri 30
						Ran 7.7
	32					Rec 7.1
					32.5	LOSS 0
	33					UNACC 0
	34				10	
	35					TP 35.2
					35.9	TL 35.5
	36					Pull #6
						START 21.45
	37					End 22.10
						Time 35
	38				11	Dri 35
						Ran 9.9
	39					Rec 12.5
					39.3	LOSS 0
	40					UNACC 0
	41				12	
	42					
	43				43.1	



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	44				13	
	45					TP 45.3
	46					TI 45.8
	47				46.8	Pull #7
	48					START 22.35
	49					End 22.55
	50					Time 20
	51					Drl 20
451.7						Ran 1.7
						REC 1.7
						LOSS 0
						UNACC 0
						TI & TP 47.5

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF SHEETS	
2. LOCATION (Coordinates or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		MSL	
3. DRILLING AGENCY		Ot 67-59 B Memo LC 33-1		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		MSL	
4. HOLE NO. (As shown on drilling title and file number)		W G JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		"B" 57	
5. NAME OF DRILLER		Wayne Tice		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED NA UNDISTURBED NA	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		497.0		15. ELEVATION GROUND WATER		NA	
8. DEPTH DRILLED INTO ROCK		38.0		16. DATE HOLE		STARTED 2-6-89 COMPLETED 2-6-89	
9. TOTAL DEPTH OF HOLE		38.0		17. ELEVATION TOP OF HOLE		497.0	
				18. TOTAL CORE RECOVERY FOR BORING		38.0 %	
				19. SIGNATURE OF INSPECTOR		JET	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		SS. lt. gr. med hd. to hd. to c.g. Fe stained & sandy bedding bkn pl 0-1' spa. 0.0-1.5			Pull #1 START 14:10 END 14:20 TIME 10 min DRL 10 min RAN - REC 5.2 LOSS 0 UNACCD	
494.2	3		SLS. gr s to med hd. sh. bkn. 3.0-3.1 4.7 - 4.9 5.2.8-5.4		3.6	UNACCD	
491.8	5		CLS gr. s. sh. 4.1-4.7			TI 5.2 TP 5.0	
	6		SS gr. to lt. gr. med hd. f.g. ang. pl. w/ci coating ~30°: 5.5-5.7, 6.1-6.3		2	Pull #2 START 14:30 END 14:38 TIME 8 min DRL 8 min RAN - REC 5.0 LOSS 0 UNACCD	
489.6	7		Cucucous Com. 6.3-6.8		7.1		
	8		CLS gr. s. sh. gravel becoming more silty w/depth. occ. ang. pl. ~30° bkn. 9.0-9.4, 10.7-11.1, 13.3 13.5		3	TI 10.1 TP 10.0	
	9		ang. pl. w/ci coating 45° 9.9-10.2 SLS gr. s. sh. 10.2-10.7 5 ft. below 13.0			Pull #3	
	10		ang. pl. ~30° w/slk: 12.4-12.5		10.9	START 14:50 END 15:00 TIME 10 min DRL 10 min RAN - REC 3.1 LOSS 0 TP 13.3 UNACCD	
	11				4		
	12				14.4		
482.	13					TI 15.1	
	14					Pull #4	
	15		SLS gr. s. to med hd sh. s. 15.0-17.4		5	START 15:13 END 15:20 TIME 7 min DRL 7 min RAN 3.4 UNACCD REC 3.4 LOSS 0 TP 18.4 TI 18.6	
	16		Vert frac. 15.0-17.2				
	17		CLS gr. s. sh. 20.9-21.2		18.1		
	18		23.5 25.0 bkn. 22.1			Pull #5	
	19		22.3 ang. pl. w/s/hn 20.5-20.7		6	START 330 REC 1.0 END 351 LOSS 0 TIME 21 DRL 21 RAN 1.4 TP 19.8	

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PROJECT Gallipolis Lock & Dam HOLE NO. LC 33-1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No. LC-33/1		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
Gallipolis Lock & Dam		ORH - CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				21.2	TP 20.1 Pull #6 START 3:50 END 4:07 TIME 17min DEL 17min RAN 5.2 REC 5.2 LOSS 0 UNACCB
471.8	25				24.6	TP 25.0 TP 25.1 Pull #7
	26		ICL. dk gr. to r. br. s to med. hd. sh.		8	START 4:10 END 4:45 TIME 35min DEL 35min RAN 9.9 REC 9.9 LOSS 0 UNACCB
	27		occ s/lk dk. gr. above 28.8 r. br. below 28.8		28.1	
	28		Sev. bkn. 29.9-31.4		9	
	29		occ. mot.			
	30					DEL 20.2 Pull #8
	31				31.4	START 5:00 END 5:30 TIME 30min DEL 30min RAN 9.3 REC 9.3 LOSS 0 UNACCB
	32					
	33				10	
	34				34.5	DEL 39.5 Pull #9
	35					START 5:40 END 5:10 TIME 30min DEL 30min RAN 4 REC 4.6 LOSS 0 UNACCB
458.9	38				38.8	DEL 38.8

DRILLING LOG		DIVISION	INSTALLATION	Hole No. <b>LC-91/1</b>	
		<b>ORD</b>	<b>ORH-LD</b>	SHEET <b>1</b>	OF <b>2</b> SHEETS
1. PROJECT <b>Gallipolis Lock &amp; Dam</b>			10. SIZE AND TYPE OF BIT <b>4 1/2 IN</b>		
2. LOCATION (Coordinate or Station) <b>MONRO LC-91 STA 1+38A</b>			11. DATUM FOR ELEVATION SHOWN (FTH or BBL) <b>M.S.L</b>		
3. DRILLING AGENCY <b>W. G. JAGUES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>		
4. HOLE NO. (As shown on drawing title and file number) <b>LC 4/1</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>		
5. NAME OF DRILLER <b>DENNIS THOMPSON</b>			14. TOTAL NUMBER CORE BOXES <b>11</b>		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <b>N/A</b>		
7. THICKNESS OF OVERBURDEN <b>0.0 496.1</b>			16. DATE HOLE STARTED <b>2/9/89</b> COMPLETED <b>2/10/89</b>		
8. DEPTH DRILLED INTO ROCK <b>39.8</b>			17. ELEVATION TOP OF HOLE <b>496.1</b>		
9. TOTAL DEPTH OF HOLE <b>456.3</b>			18. TOTAL CORE RECOVERY FOR BORING <b>39.8</b>		
			19. SIGNATURE OF INSPECTOR <b>JMD</b>		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1			SLS			PULL #1
	1		GR, M.H.GR W/CONES (LOW)		Box 1	START 21:40
	2		OF SANDSTONE, BKN, SHALCY			END 22:05
			GRAD CONTACT			TIME 25min
493.1	3					DEL 25min
	4		SANDSTONE		3.7	RAN 4.8
	5		M.H.GR P.G. MASS			REC 4.8
	6		0.6 HA IER FENC 26.4			LOSS 0
488.9	7					UNACC 0
	8		CLS/SLS			DEPT/TID 4.8
	9		INTERBDD, M.H.GR		Box 2	PULL #2
	10		FLAGGY MASS 0.1 BKN			START 22:15
	11					END 22:32
	12		20 10.2 0.7 SCFTTR			TIME 17min
	13		BKN CLS @ 17.7 GRADING		7.2	DEL 17min
	14		GRADING FROM CLS TO ICL			RAN 5.0
	15				Box 3	REL 5.0
	16					LOSS 0
	17					UNACC 0
	18					DEPT/TID 5.0
	19				10.7	PULL #3
	20					START 22:45
						END 23:00
					Box 4	TIME 15min
						DEL 15min
						RAN 4.9 UNACC 0
						REC 4.9
					14.2	LOSS 0
						DEPT/TID 4.9
					Box 5	PULL #4
						START 7:27
						END 8:01
						TIME 39min
						DEL 34min
					17.2	RAN 5.1
					Box 6	REL 5.1
						LOSS 0
						UNACC 0
						DEPT/TID 5.1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.1		Hole No. LC-4111	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/CLS		Box 6	PULL#5 START 8:12
	21				21.3	END 8:30
	22					TIME 18 min
	23				Box 7	DPL 18 min
	24					RAN 5.2
	25					REL 5.2
	26					LOSS 0
	27					UNAC 0
474.1	28				25.0	DEPT/DEP 5.2
	29		ICL			PULL#6
	30		M.H. SLK-GR-TO RED		Box 8	START 8:45
	31		FAIRLY MASS D. & LOSS			END 9:16
	32		29.4 - 39.8			TIME 31.0 min LOSS 0
	33					DPL 31.0 min UNAC 0
	34					RAN 4.4
	35				28.8	REL 4.4
	36					DEPT/DEP 4.4
	37					PULL#7
	38				Box 9	START 9:28
	39					END 10:06
	40					TIME 38 min
	41					DPL 38 min
	42				32.5	RAN 5.4
	43					REL 4.8
	44				Box 10	LOSS 0.6
	45					UNAC 0.6 TIDEP 4.8
	46					DEP 5.4
	47					PULL#8
	48					START 12:22
	49					END 12:45 UNAC 0
	50				36.5	TIME 23 min
	51					DPL 23 min
	52				Box 11	RAN 5.0
	53					REL 5.0
	54					LOSS 0
456.3	55		Bottom HOLE		39.8	TIDEP+DEP 39.8

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>				10. SIZE AND TYPE OF BIT <b>4XSVL</b>			
2. LOCATION (Coordinates or Station) <b>MONO LC-49 STA 3+55.06A</b>				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JAGUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOD. 4E</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>LC-49/1</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVE HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>11</b>		UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE STARTED <b>2/10/89</b> COMPLETED <b>2/10/89</b>	
7. THICKNESS OF OVERBURDEN <b>0 497.7</b>				17. ELEVATION TOP OF HOLE <b>497.7</b>			
8. DEPTH DRILLED INTO ROCK <b>38.8</b>				18. TOTAL CORE RECOVERY FOR BORING <b>38.5</b>			
9. TOTAL DEPTH OF HOLE <b>958.9</b>				19. SIGNATURE OF INSPECTOR <b>T.M.D.</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.7			SLS			PULL #1	
496.3	1		GR. S - M.H. SH. BLN W/CL			START 8:22 END 8:35 TIME 13min DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	2		SANDSTONE		1	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	3		GR, M.H., F-UE.F.G. SAT			DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	4		SLS GR, M.H., S. 3.4-3.7		4,2	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
492.2	5					DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	6		SLS/CLS		2	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	7		SLS, GR, S - M.H., SH. 5.5-5.8			DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
489.7	8		6.3-7.2 8.0 CLS GR, S, SH, 5.8		8.0	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	9		6.3, 7.2-8.0 BLN 5.8-5.9, 6.5			DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	10		6.6, 6.9-7.2			DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	11		SLS		3	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	12		GR. S - M.H., SH, CL			DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	13		8.4-10.5, 10.8-11.0 SQ. M.S.		11.7	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	14		15.5 CL COOPING DN 19.2			DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	15				4	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	16					DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	17				15.3	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	18					DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	19				5	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
	20					DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
			(CONT)		6	DRL 13min RAN 3.4 REL 2.9 LOSS 11.0 UNAC 1.0	
					(CONT)	(CONT)	

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(TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK + DAM** HOLE NO. **LC-49/1**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET 2		
GALLIPOLIS LOCK & DAM			ORH-CD	OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLs			LOSS 0.1 UNACCL 0.1
	21					DCP 21.0 PULL #5
475.7	22		CLS		6	START 12:25 END 12:40 TIME 15min DEL 15min UNACCL
	23		GR. S, SL	22.6		RAW 4.6 REC 4.6 LOSS 0
473.9	24					DCP 23.6 PULL #7
	25		ICL		7	START 12:50 END 1:10 TIME 19min DEL 19min
	26		R.B.R., S-M.H. SL, OCC SLK	26.2		RAW 9.7 REC 4.7
	27		OCC 1110.4 fcd, SEVERELY		8	LOSS 0 UNACCL 0
	28		R.W. 25.7-26.2, 33.1-33.9			TDCP 28.5 DCP 28.9
	29		33.8-34.3, 36.8-37.1			PULL #8
	30		37.7-37.9, CLK GR, NBQUE	29.8		START 1:25 END 1:48 TIME 23min DEL 23min
	31		25.5		9	RAW 9.9 REC 4.5 LOSS 0.9 UNACCL 0.9
	32					DCP 33.5 TDCP 33.9
	33			33.8		PULL #9
	34				10	START 2:04 END 2:30 TIME 26min DEL 26min RAW 5.1 REC 0.5 LOSS 0.2 UNACCL 0.2
459.2	38		Bottom HOLE	37.7	11	TDCP 38.5
	39			39.5		DCP 38.8
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
		ORH		ORH-CD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS Lock & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinate or Station) Mans LC-54 STA 4+10.8 A				11. DATUM FOR ELEVATION SHOWN (FEET or M.S.L.) M.S.L.			
3. DRILLING AGENCY W. G. JABUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOD. 2E			
4. HOLE NO. (As shown on drawing title and file number) LC-54				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES		11	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN 0 497.0				16. DATE HOLE		STARTED 2/27/89 COMPLETED 2/27/89	
8. DEPTH DRILLED INTO ROCK 38.9				17. ELEVATION TOP OF HOLE		497.0	
9. TOTAL DEPTH OF HOLE 458.1				18. TOTAL CORE RECOVERY FOR BORING 38.9		%	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		CLS			PULL #1	
	2		shy, s.-m.h., m.-dk. gr.		Box 1	START 10:40 END 10:50 TIME 10 min DEL 10 min RAN 4.9 REC 4.9 LOSS 0 UNACQ	
494.2	3		SANDSTONE		3.6	DEP 4.9	
	4		shy, f.g., m.h., m.g.			UNACQ	
496.5	5		GRAINING shy w/dep		Box 2	DEP 4.9 PULL #2	
	6		CLS/SLs			START 11:00 END 11:10 TIME 5 min	
	7		S.-m.h., m.-dk. gr. w/occ		7.2	DEL 5 min	
	8		SM. NOT P.B. 8.3-8.8			RAN 5.1 REC 5.1	
	9		10.3 SLTENS 10.1-10.4		Box 3	LOSS 0 UNACQ	
	10		11.5-11.7, 11.8-12.6			DEP 10.1	
	11				10.9	PULL #3	
	12					START 11:25 END 11:35 TIME 5 min	
	13				Box 4	DEL 5 min	
	14					RAN 5.1 REC 5.1	
481.9	15				14.7	LOSS 0 UNACQ	
	16		SLs			DEP 15.2 PULL #4	
	17		SLs, SA, m.h., m.g., SM		Box 5	START 11:50 END 11:40 TIME 10 min	
	18		SLs 2-15.9, D.P. SM SLK			DEL 10 min	
	19		SURFACE @ 16.5' GRAINING SA		18.0	RAN 5.0	
478.0	20		SLK SURFACES 17.3-17.4		Box 6	DEL 5.0	
477.7			15.0-19.2			LOSS 0 UNACQ	
			SLK S.M.H., P.B., SLK			(CONT)	
			CLS (CONT.)		CONT	(CONT)	



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
6ALLIPOLIS LOCK & DAM		ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	DEP 20.2 PULL #5
	21		S.M.H. M.-dk. gr		26.9	START 12:25 END 12:45
475.4			GRADING			
	22		ILL		Box 7	TIME 20 min
	23		GREENISH GRAY - R. BR,			DRL 20 min
	24		SLK S.M.H.			RAN 5.0
	25		BECOMING R. BR			REC 5.0
	26		@ 23.0		25.0	LOSS 0 UNACCE
	27					DEP 25.2 PULL #6
	28				Box 8	START 12:55 END 1:20
	29					TIME 25 min
	30				28.3	DRL 25 min
	31					RAN 4.8
	32					REC 4.8
	33				Box 9	LOSS 0 UNACCE
	34					DEP 30.0 PULL #7
	35				31.9	START 1:25 END 1:40
	36					TIME 15 min
	37				Box 10	DRL 15 min
	38					RAN 4.6
	39					REC 4.6
458.1					38.9	LOSS 0 UNACCE
	40					DEP 34.6 PULL #8
	41				35.5	START 1:50 END 2:15
	42					TIME 20 min
	43				Box 11	DRL 20 min
	44					RAN 4.3
						REC 4.3
						LOSS 0 UNACCE
						DEP 38.9



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2	
Gallipolis Lock & Dam			OR4 CD		OF 9 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
						TP 19.7
	21				7	TI Depth 20.9 Pull # 9 START 12:40 End 12:55 Time 15 Dri 15 Ran 33 Rec 33 LOSS 0 unacc 0
473.6	22				23	TP 23.6 TI Depth 23.6
	23					
	24		ss. gn to lt gr mod hd. f. to med. g. mic grad. w/f g. @ top med. g. @ bot., occ x-bed. pl. t. cl seams. 471.5, 471.2 & 470.6 @ 0.3" thick mech. bkn. 468.6-468.3		8	Pull # 10 START 1:17 End 1:29 Time 12 Dri 12 Ran 44 Rec 5.0 LOSS 0 unacc 0
	25				26.5	
	26					TP 27.3 TP 27.6 TI 28.0
	27				9	Pull # 11 START 2:04 End 2:10 Time 6 Dri 6 Ran 0.3 Rec 0.3 LOSS 0 unacc 0
	28				29.9	TI 28.3
	29					
	30					
	31				10	Pull # 12 START 2:26 End 2:42 Time 22 Dri 22 Ran 9.9 Rec 9.5 LOSS 0.4 unacc 0
	32				33.7	
	33					
	34					
	35				11	
	36					
	37				37.5	TP 37.8 TI 38.2
	38					Pull # 13
	39				12	START 3:06 End 3:17 Time 11 Dri 11 Ran 9.8 Rec 9.8 LOSS 0.4 unacc 0
	40				40.9	
	41					
	42				13	
	43					

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.6		Hole No. MC-7/1	
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD		SHEET 3 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
450.0	46				44.5	TP 45.9
449.0	47				14	
			BOTTOM: HOLE		47.6	TI 47.6
	48					
	49					
	50					

ENG FORM 1836-A (SR 1110-1-1801)

GPO 1980 OF - 828 - 803

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
MC-7/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>MC-2/1</i>	
		<i>ORD</i>		<i>ORH-CD</i>		SHEET 1 OF SHEETS	
1. PROJECT <i>BALLIPOLIS LOCKI DAM</i>				10. SIZE AND TYPE OF BIT <i>4.554</i>			
2. LOCATION (Coordinates or Station) <i>MONO MC-2 STA 16+10.25 B</i>				11. DATUM FOR ELEVATION SHOWN (FBN or BBL) <i>M.S.L.</i>			
3. DRILLING AGENCY <i>W. G. JAGUES</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>MC-2/1</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <i>N/A</i>		UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>DAVID HARPER</i>				14. TOTAL NUMBER CORE BOXES <i>13</i>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <i>N/A</i>		16. DATE HOLE STARTED <i>4/28/89</i> COMPLETED <i>4/28/89</i>	
7. THICKNESS OF OVERBURDEN <i>496.4</i>				17. ELEVATION TOP OF HOLE <i>496.4</i>			
8. DEPTH DRILLED INTO ROCK <i>46.4</i>				18. TOTAL CORE RECOVERY FOR BORING <i>46.4</i>			
9. TOTAL DEPTH OF HOLE <i>450.0</i>				19. SIGNATURE OF INSPECTOR <i>JMN</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
<i>496.4</i>			<i>SANDSTONE</i>			<i>PULL #1</i>	
	1		<i>P.M.G., M.G.R., M.H., WITHIN</i>		<i>Box 1</i>	<i>START 8:55</i>	
	2		<i>SLT, ANG, CARB LAM.</i>			<i>END 9:00</i>	
	3		<i>HA - NEAR VERT, 0.5T 0.0 -</i>			<i>TIME 5min</i>	
	4		<i>2.0 W/LCA 0.0 - 1.5</i>			<i>DRL 5min</i>	
	5		<i>0.4 C.C. (MOCK) (0.0 - 0.4)</i>			<i>RAN 5.0</i>	
	6				<i>3.6</i>	<i>REC 4.6</i>	
	7					<i>LOSS 0.9</i>	
	8					<i>UNACC -</i>	
<i>492.8</i>					<i>Box 2</i>	<i>DEPT/TIDE 5.6</i>	
<i>488.9</i>			<i>CL</i>			<i>PULL #2</i>	
	9		<i>M.G.R., U.S. W/POSS RO. FRAC</i>			<i>START 7:00</i>	
	10					<i>END 9:16</i>	
	11					<i>TIME 8min</i>	
	12				<i>7.5</i>	<i>DRL 8min</i>	
	13					<i>RAN 3.0</i>	
	14					<i>REC 5.0</i>	
	15				<i>Box 3</i>	<i>LOSS -</i>	
	16					<i>UNACC -</i>	
	17					<i>DEPT/TIDE 10.0</i>	
<i>485.0</i>			<i>ICL</i>		<i>11.0</i>	<i>PULL #3</i>	
	18		<i>S.-M.H., R. BR, SLK U. BRN</i>			<i>START 9:50</i>	
	19		<i>8.5 - 10.0: 3 segments</i>			<i>END 9:56</i>	
	20		<i>10.0 - 11.4 GRADING SLY</i>			<i>TIME 4min</i>	
	21		<i>US depth.</i>		<i>Box 4</i>	<i>DRL 4min</i>	
	22					<i>RAN 4.0</i>	
	23					<i>REC 4.2</i>	
	24					<i>LOSS 0.2</i>	
<i>481.9</i>			<i>SLS</i>		<i>14.7</i>	<i>UNACC 0.2</i>	
	25		<i>CLY. M.G.R., S.-M.H. W</i>			<i>DEPT/TIDE 19.9</i>	
	26		<i>CLOSELY SPACED THIN CLY</i>			<i>PULL #4</i>	
	27		<i>SEAMS 0.2 L.C. BTWN 10.0</i>			<i>START 10:00</i>	
	28		<i>&amp; 1x.4 GRADING INTO</i>			<i>END 10:08</i>	
	29				<i>Box 5</i>	<i>TIME 8min</i>	
	30					<i>DRL 9min</i>	
	31					<i>RAN 5.0 UNACC -</i>	
	32				<i>18.9</i>	<i>REC 5.0</i>	
<i>477.0</i>			<i>SLS/SS</i>		<i>Box 6</i>	<i>LOSS -</i>	
	33		<i>INT-1.2-1, S.-M.H. M.G.R</i>			<i>DEPT/TIDE 13.9</i>	
	34		<i>W/LOC SLY HOR. PTG.</i>			<i>PULL #5</i>	
	35		<i>GRADING INTO</i>				
	36				<i>CONT</i>		
	37		<i>SANDSTONE</i>				
	38		<i>(CONT)</i>				

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6AKKIDOLIS LOCK DAM		ORN-CD		2 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20				Box 6	PULL#5 START 11:35 END 11:43 TIME 8 min UNAC -
	21					DEL 8 min
	22		SANDSTONE		21.7	RAN 4.9 REC 4.9 LOSS - DEP 29.9 T/DEP 29.3
	23				Box 7	PULL#6 START 11:50 END 12:00 TIME 10 min
	24		P.S., M.H., M.G.R. W/			DEL 10 min
	25		SHY. LAM & ZOE, OCL		Box 8	RAN 3.5 REC 3.4 LOSS 0.1 T/DEP 27.8 UNAC 0.1
	26		DTG ALONG SHY LAM			DEP 29.3 PULL#7 START 12:05 END 12:11 TIME 6 min UNAC -
	27		0.1 L.C. BTWN 24.3 &		Box 9	DEL 6 min RAN 4.5 REC 4.5 T/DEP 32.3 LOSS - DEP 32.3
	28		27.8 (MICK)			PULL#8 START 12:17 END 12:25 TIME 8 min
	29		0.3 L.C. BTWN 32.3 &		Box 10	DEL 8 min RAN 5.1 REC 4.6 LOSS 0.3 UNAC 0.3 DEP T/DEP 37.4
	30		37.4 (MICK)			PULL#9 START 12:33 END 12:40 TIME 7 min
	31				Box 11	DEL 7 min RAN 4.9 REC 4.5 LOSS - UNAC -
	32					DEP 42.9 T/DEP 42.3
	33				Box 12	PULL#10 START 12:49 END 1:05 TIME 16 min
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44		(CONT)			

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.4		Hole No. <u>MIC-2/1</u>	
PROJECT <u>GALLIPOLI LOCK E DAM</u>			INSTALLATION <u>ORH-CD</u>		SHEET <u>3</u> OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	74		SANDSTONE		Box	DRILL 10 min in PULL #10.
	75		(CONT)		13	RAW 4.4
	76					PEC 4.4
450.0			BOTTOM: HOLE			LOSS —
						UNREC —
	77					T/DSP 46.7
	78					DEP 47.2
	79					
	80					

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>RL-5/1</i>	
1. PROJECT		<i>ORD</i>		<i>ORH-CD</i>		SHEET 1 OF 3 SHEETS	
2. LOCATION (Coordinates or Station)		<i>6 Allipolis Lock &amp; Dam</i>		10. SIZE AND TYPE OF BIT <i>4 1/2"</i>		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)	
3. DRILLING AGENCY		<i>W. G. JAMES</i>		12. MANUFACTURER'S DESIGNATION OF DRILL		<i>M.S.L.</i>	
4. HOLE NO. (As shown on drawing title and file number)		<i>RL-5/1</i>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i> UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER		<i>DAVID HARPED</i>		14. TOTAL NUMBER CORE BOXES		<i>19</i>	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		<i>N/A</i>	
7. THICKNESS OF OVERBURDEN		<i>0 493.5</i>		16. DATE HOLE		STARTED <i>4/29/89</i> COMPLETED <i>4/29/89</i>	
8. DEPTH DRILLED INTO ROCK		<i>47.8</i>		17. ELEVATION TOP OF HOLE		<i>493.5</i>	
9. TOTAL DEPTH OF HOLE		<i>445.7</i>		18. TOTAL CORE RECOVERY FOR BORING		<i>47.8</i>	
				19. SIGNATURE OF INSPECTOR		<i>LMD</i>	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
493.5	1		SANDSTONE			PULL #1	
	2		F-M.G., M.G.R., M.H. WITHIN		Box 1	START 1:20	
	3		SLI ANG. CARB. LAM			END 1:28	
	4		O.Z. ACC LOSS (mech. prob			TIME 8min	
	5		AT T/H) BTWN 0.0:5.0			DEL 8min	
	6				3.6	RAN 5.0	
	7					REC 4.8	
	8					LOSS .2	
	9					UNACCL .2	
	10				Box 2	DEPT+TIDEP 5.0	
	11					PULL #2	
486.8	12		CLS			START 1:32	
485.9	13		S-M.H.G.R., WCA. CONT @ 6.7		7.2	END 1:48	
	14		VS 7.2-7.6			TIME 11min	
	15					DEL 11min UNACCL -	
	16					RAN 4.5	
	17		ICK		Box 3	REC 4.5	
	18		S-M.H., R.B.R., BKN, SLK			LOSS -	
	19					DEPT+TIDEP 9.5	
	20				10.3	PULL #3	
	21					START 2:55	
	22					END 3:07	
	23					TIME 12min	
481.6	24		SLK		Box 4	DEL 12min	
	25		GR., S-M.H. w/loc F. sa.			RAN 3.6	
	26		LENSES: 1.0E 6KN 13.1-14.3		18.3	REC 3.3 TIDEP 13.1	
	27		LENSES: 1.0E 6KN 13.1-14.3			LOSS 0.3	
	28		LENSES: 1.0E 6KN 13.1-14.3			UNACCL 0.3	
	29		LENSES: 1.0E 6KN 13.1-14.3			DEPT 14.5	
	30		LENSES: 1.0E 6KN 13.1-14.3			PULL #4	
476.9	31		SANDSTONE		Box 5	START 9:00	
	32		SLY. F.G., M.H., R.W. W/CHAL			END 9:10	
	33		SLY. F.G., M.H., R.W. W/CHAL			TIME 10min	
	34		SLY. F.G., M.H., R.W. W/CHAL			DEL 10min	
	35		SLY. F.G., M.H., R.W. W/CHAL		18.0	RAN 4.9	
	36		SLY. F.G., M.H., R.W. W/CHAL			REC 4.9 TIDEP 18.0	
	37		SLY. F.G., M.H., R.W. W/CHAL		Box 6	LOSS 0	
	38		SLY. F.G., M.H., R.W. W/CHAL			UNACCL 0	
	39		SLY. F.G., M.H., R.W. W/CHAL			DEPT 17.6	
	40		SLY. F.G., M.H., R.W. W/CHAL			PULL #5	
	41		SLY. F.G., M.H., R.W. W/CHAL			START 9:15	
	42		SLY. F.G., M.H., R.W. W/CHAL			END 9:22 (1.0E)	



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 493.5		Hole No. RC-5/1	
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
492.5	20		+ 20.4 (mech) grading into		Box 6	PULL #5 TIME 11min DEL 11min TIDEP 20.4
	21		SLs		21.5	RAIN 2.4
	22		SLs, m.g.r., m.h., w/occ		Box 7	REC 2.1 LOSS 0.3 UNAC 0.3 DEPT 23.0
	23		SL LENSES, 0.3 LC BTWN			PULL #6
	24		24.2 f 28.4, grading into			START 9:35 END 9:43 TIME 8min TIDEP 24.2 DEL 8min LOSS 0.4 RAIN 4.2 UNAC 0.4 REC 3.8 DEPT 25.9
	25				25.0	
	26				Box 8	PULL #7 START 9:49 END 10:00 TIME 11min DEL 11min UNAC 0.3 RAIN 4.7 REC 4.4 LOSS 0.3 TIDEP 28.9 DEPT 29.2
464.5	29		SANDSTONE		Box 9	PULL #8 START 10:05 END 10:10 TIME 15min DEL 15min RAIN 4.5 REC 4.5 LOSS — UNAC — TIDEP 32.4 DEPT 32.9
	30		A.M. g, m. gr, m.h.-h.			
	31		MASS w/occ, sm, pyrite		32.0	
	32		INCLUSIONS TO 33.0		Box 10	PULL #9 START 10:15 END 10:25 TIME 8min DEL 8min RAIN 4.5 REC 4.8 LOSS — UNAC — DEPT/DEPT 38.2
	33		0.2 LC (mech) btwn			
	34		38.2 f 42.8		35.5	
	35				Box 11	PULL #10 START 10:30 END 10:35 TIME 5min DEL 5min UNAC 0.2 RAIN 4.6 REC 4.4 LOSS 0.2 DEPT/DEPT 42.8 PULL #11
	36					
	37				Box 12	START 10:43 (CONT)
	38					
	39					
	40					
	41					
	42					
	43					
	44		(CONT)			

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	44		SANDSTONE.		Box 13	PULL #11 END 10:56 TIME 13 MIN DEL 13 MIN RAN - REC 5.0 LOSS - UNAC -
	45					
	46				46.1	
	47				Box 14	
445.7			BOTTOM HOLE		47.8	DEPT/IDEP 47.8
	48					
	49					
	50					

DRILLING LOG		DIVISION		INSTALLATION		NOIS NO.	
ORD		ORD		ORD - CD		SHEET 1 OF 2 SHEETS	
1. PROJECT Gallipolis Lock & Dam				10. SIZE AND TYPE OF BIT 4 1/2" L			
2. LOCATION (Coordinates or Station) STA- 13+28.37				11. DATUM FOR ELEVATION SHOWN (FSL or MSL) M.S.L.			
3. DRILLING AGENCY W & J. Jones				12. MANUFACTURER'S DESIGNATION OF DRILL B. 57 MOBILE			
4. HOLE NO. (As shown on drilling title and file number) 496.1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN NA		UNDISTURBED NA	
5. NAME OF DRILLER David Harper				14. TOTAL NUMBER CORE BOXES 12			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER NA			
7. THICKNESS OF OVERBURDEN 496.1				16. DATE HOLE STARTED 12-6-88 COMPLETED 12/6/88			
8. DEPTH DRILLED INTO ROCK 43				17. ELEVATION TOP OF HOLE 496.1			
9. TOTAL DEPTH OF HOLE 43				18. TOTAL CORE RECOVERY FOR BORING 43 %			
				19. SIGNATURE OF INSPECTOR JFT			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		SS. gr. to lt. q. mod. hd. med to f. g. sli mic. mec. bkn. @ 491.5		1	Pull # START 12.27 End 12.55 Time 28. Drl 28 Ran 5.0 Rec 5.0 Loss 0 Unacc 0
490.9	5				4.8	TI 5.0
	6		ICL. r. br. s. mat w/ gn & gn. gr. cl. Mar. being cts bkn. 488.9 - 488.6 Sav. w/ poss loss H. gr. fat cl @ 490.9 - 490.7		2	Pull # 2 START 1.10 Loss 0 End 1.17 unacc 0 Time 7 Drl 7 Ran 0.8 TP 5.8 Rec 0.8 TI 1.67
488.6	7				7.2	Pull # 3 START 1.30 unacc 0.8 End 1.40 Time 10 Drl 10 Ran 3.1 Rec 2.8 Loss 0.3 TP 8.9
	8		SLs. g. to gn. gr. s. to mod. hd. grad. w/ sh @ top to sh. @ bot. mec. spin 487.7 bkn. w/ cl seams 487.2 485.8		3	TI 9.3
	9				10.2	Pull # 4 START 2.03 Loss 0.3 End 2.18 unacc 0.3 Time 15 Drl 15 Ran 1.6 TP 10.5 Rec 1.3 TI 10.9
	10				4	Pull # 5 START 2.39 End 2.50 Time 11 Drl 11 Ran 3.2 Rec 3.1 TP 13.7 Loss 0.1 Unacc 0.1
	11				14.5	
	12				5	TI 15.7
	13				17.5	Pull # 6 START 3.18 End 3.29 Time 11 Drl 11 Ran 7.3 Rec 7.5 Loss 0 Unacc 0
478.6	18				4	
	19					

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PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
RC14/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.1		Hole No. RC 14/1	
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SS gr. to lt gr. med hd. f. to med. g. mic. grad. Contact. w/ shs. c. w/dep. occ x-bdd. redrill 471.4 to 470.6 Nat. @ 466.2 Small vu. @ 461.5 Ang. pl. 30° @ 476.0 475.9		20.4	
	21					TP 21.4
	22					TI 21.0 Pull # 7
	23				7	START 8.25 End 8.54 Time 29 Dri 29 Ran 3.5 Rec 3.1 Loss 0.4 Unacc 0.4
	24					TP 24.7
	25				25.2	TI 25.5
	26					Pull 8
	27				8	START 9.20 End 9.48 Time 28 Dri 28 Ran 7.8 Rec 8.2 Loss 0 Unacc 0
	28					
	29				29.1	
	30					
	31				9	
	32					
	33				32.7	TP 32.5
	34					TI 32.9
	35					Pull # 9
	36				10	START 10.26 End 10.54 Time 34 Dri 28 Ran 9.9 Rec 9.9 Loss 0 Unacc 0
	37				36.3	
	38					
	39				11	
455.0	40				40.2	
	41					
	42				12	
453.1	43		Section 462E		43.0	TP 42.5
						TI 43.0

DRILLING LOG		DIVISION	INSTALLATION	SHEET 17 OF 2 SHEETS		
1. PROJECT <i>Gallipolis Lock &amp; Dam</i>			10. SIZE AND TYPE OF BIT <i>4 1/2"</i>			
2. LOCATION (Coordinates or Station) <i>STA 2+83.2 "A"</i>			11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) <i>M.S. 1</i>			
3. DRILLING AGENCY <i>W. G. JAGUES</i>			12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>RC-26/1</i>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <i>NA</i> UNDISTURBED <i>NA</i>			
5. NAME OF DRILLER <i>David HARPER</i>			14. TOTAL NUMBER CORE BOXES <i>7</i>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <i>NA</i>			
7. THICKNESS OF OVERBURDEN <i>497.8</i>			16. DATE HOLE STARTED <i>2-24-89</i> COMPLETED _____			
8. DEPTH DRILLED INTO ROCK <i>22.8</i>			17. ELEVATION TOP OF HOLE <i>497.8</i>			
9. TOTAL DEPTH OF HOLE <i>22.8</i>			18. TOTAL CORE RECOVERY FOR BORING <i>22.8</i> %			
			19. SIGNATURE OF INSPECTOR <i>JST</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
<i>496.3</i>	1		SS lt gr. med hd. med c 9' thin bdd 0.1 spacing fe. stained 0.0-0.9			Pull #1 START 9:20 End 9:33 Time 13 Drl 13 Ran 4.8 Rec 4.8 LOSS unacc 0.2
	2		SLS/CLS/SS. Interbedded SLS gr. s to med hd., Sh. 1.5 2.1, 3.4-5.1, 6.0-6.7		1	
	3		CLS gr. s. sh. 2.9-3.4 5.0-6.0		3.8	
	4		SS gr. mod. hd. v. f. gr. 2.1-2.9 fe. sta. 1.5-1.8			
<i>491.1</i>	5		Sr SLS. 3.7-5.1 6.0-6.7 bkn. 3.8-5.0		2	TI & TP 5.00 Pull #2 START 9:40 End 9:55 Time 15 Drl 15 Ran 4.2 Rec 4.6 LOSS unacc 0.4
	6					
	7		SS. lt gr. mod. hd. f. gr., bkn. pl. ~ 0.3 spacing ang. 45° pl. w/ cl coating 7.0-7.2		7.3	
	8					
<i>488.7</i>	9				3	
	10		SLS gr. s to med hd. sh. occ. int bdd. w CLS			TI & TP 10.0 Pull #3
	11		SS CLS. gr. s. sh. 9.1-10.3 10.8-11.2 bkn 10.9-11.2 14.1-14.5		11.2	START 10:04 End 10:17 Time 13 Drl 13 Ran 4.1 Rec 4.3 LOSS unacc 0.2
	12		SS. scan. gr. med. hd. f. g. 11.7-11.9 15.5-16.6 17.6-17.7			
	13		int bdd SLS & CLS w/ bkn pl. 0.1 spacing w/ occ cl Coating 12.4-15.0 20.0		4	TP 14.5
	14		21.6 S, SLS, 15.3-15.5 17.7-18.3		14.9	TI 15.0
	15		cl, SLS 22.2-22.8			Pull #4
	16					START 10:22 End 10:33 Time 11 Drl 11 Ran 4.4 Rec 4.4 LOSS unacc 0
	17				5	
	18				18.6	TP 18.9
	19				6	TP 19.5

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. RC 26/1	
PROJECT			INSTALLATION		SHEET 2	
Gallipolis Lock & Dam			ORH-CD		OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.6	21				6	Pull #5 START 10:42 End 10:55 Time 13 Dri 13 Ram 5.0 Rec 5.0 Loss 8 URCC 8
474.6	22				22.2	
474.6	23		CLS dk gr. S CI		7	
473.9	24				23.9	TP 23.9
	25					TI 24.5
	26					
	27					
	28					
	29					
	30					



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		ORD		ORHLD		OF 2 SHEETS	
1. PROJECT		6 Allipolis Lock & Dam		10. SIZE AND TYPE OF BIT		4 1/2" L	
2. LOCATION (Coordinate or Station)		MONO R-19 STA 18+21.8		11. DATUM FOR ELEVATION SHOWN (VEN or MLL)		M.S.L.	
3. DRILLING AGENCY		W. G. JAMES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number)		R-19/1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		STEVE FRY		14. TOTAL NUMBER CORE BOXES		6	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> UNCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		0 496.4		16. DATE HOLE		STARTED 2/10/89 COMPLETED 2/13/89	
8. DEPTH DRILLED INTO ROCK		22.5		17. ELEVATION TOP OF HOLE		496.4	
9. TOTAL DEPTH OF HOLE		493.9		18. TOTAL CORE RECOVERY FOR BORING		22.5 %	
				19. SIGNATURE OF INSPECTOR		LMD.	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.4	1		SANDSTONE			PULL #1	
	2		LT. GR. M.H.-H, M.-LGR		1	START 22:00	
	3		Few BEN pn, CAH.			END 22:15	
	4		CEM. 0.0-0.2, 0.7-1.0			TIME 15 min	
	5		CLAY COATING @ 70		3.9	DRL 15 min	
	6					RAN 5.0	
	7					REL 5.0	
489.4	8		SLT		2	LOSS 0	
	9		GR. M.H., SG			UNACL	
487.7	10		CLS			DEPT+IDEP 5.0	
486.7	11		GR. S. SH SG, SLT 9.3-9.4		3	PULL #2	
	12		SANDSTONE			START 22:21	
	13		GR., M.H., F-VE. FGR			END 22:29	
	14		SLT, SA, SLT, SA, SAT			TIME 8 min	
	15		EXN 12.4-13.2, 16.9		7.4	DRL 8 min	
	16		- 17.5, 20.5-21.1,			RAN 4.7	
	17		NIECH RAN 14.6-14.5			REL 4.7	
	18		SH		3	LOSS 0	
	19		(CONT)			UNACL	
	20					DEPT+IDEP 9.7	
					11.0	PULL #3	
						START 22:38	
						END 22:54	
						TIME 16 min	
					4	DRL 16 min	
						RAN 5.1	
						REL 5.1	
						LOSS 0	
					19.7	UNACL	
						DEPT+IDEP 19.8	
					5	PULL #4	
						START 23:08	
						END 23:22	
						TIME 14 min	
						DRL 14 min	
						RAN 4.1	
					18.2	LOSS 0	
						REL 4.1 UNACL	
						DEPT+IDEP 18.9	
					18.7	PULL #5	
						(CONT)	

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PROJECT HOLE NO.  
Gallipolis Lock & Dam A-17/1



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 4964		Hole No. R-19/1	
PROJECT GALLIPOLIS Lock & DAM			INSTALLATION GRH-LP		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5 START 16:20 REC 3.6 END 16:24 LOSS 0 Time 4min UNAL 0 DEL 4min CAN 3.6
473.9	22		BOTTOM HOLE		22.5	DCP & T/DCP 22.5
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>Gallipolis Lock + DAM</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MDNA R-19 STA 17+88.8</b>				11. DAYTIME ELEVATION BROWN (FWS or BBL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACOBS</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B. 57 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-19/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
				UNDISTURBED <b>N/A</b>			
5. NAME OF DRILLER <b>DENNIS THOMPSON</b>				14. TOTAL NUMBER CORE BOXES <b>6</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>496.1</b>				16. DATE HOLE STARTED <b>2/13/89</b> COMPLETED <b>2/13/89</b>			
8. DEPTH DRILLED INTO ROCK <b>21.6</b>				17. ELEVATION TOP OF HOLE <b>496.1</b>			
9. TOTAL DEPTH OF HOLE <b>474.5</b>				18. TOTAL CORE RECOVERY FOR BORING <b>21.6</b> %			
				19. SIGNATURE OF INSPECTOR <b>LMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.1	1		SLS DRGR, S-M.H., SQ, BKN SHALY 0.0-0.3, 1.1-2.3			PULL #1 START 17:10 END 17:20 TIME 10min DRL 10min RAN 5.0 REC 5.0 LOSS 0 UNACQ	
493.8	2				1		
	3		SANDSTONE GR - LTGR, M.H. - H, M -		3.8	UNACQ	
	4		L.GR, CAL. CEM. 3.4-3.8			DEPTH/DROP 50	
490.0	5				2	PULL #2 START 18:10 END 18:40 TIME 10min DRL 10min RAN 5.0 REC 4.8 LOSS 0.2 UNACQ 0.2	
489.4	6		CLS GR. S.			DEPTH/DROP 100	
	7		SLS GR - DRGR, S-M.H., SQ,		7.3		
	8		SS. GR, M.H., VEF GR.		3		
486.9	9		CAL. CEM. 6.7-7.0				
	10		CLS DR. GR, S. SH, CL. SCAM 1.05 THICK @ 106				
485.5	11		SANDSTONE		11.0	PULL #3 START 18:30 END 18:40 TIME 10min DRL 10min RAN 5.0 REC 4.9 LOSS 0.1 UNACQ 0.1	
	12		GR, M.H., F. GR		4		
	13		SLS SEAMS 12.3-12.7			DEPTH/DROP 150	
	14		1.05 THICK 12.9, 13.2-13.3		14.8		
	15		1.05 THICK 15.5				
	16		SS 19.7-20.5, 20.9-21.6		5	PULL #4 START 18:50 END 19:00 TIME 10min DRL 10min RAN 4.3 REC 4.3 UNACQ 0	
	17		SILT below 19.1				
	18				18.9		
	19				6	LOSS 0 DEPTH/DROP 19.3	
	20				(CENT)	PULL #5 CONT	

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PROJECT **Gallipolis Lock + DAM** HOLE NO. **R-19/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
6 Allipolis Lock+Dam		4961		R-19/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #5
	21					
9795			BOTTOM HOLE		21.6	END 19:25 DCP+TI DCP 21.6
	22					TIME 10min
	23					DEL 10min
	24					RAN 2.3
	25					REC 2.3
	26					LOSS Ø
	27					UNACC Ø
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OPH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		6ALLIPOLIS Lock & DAM		10. SIZE AND TYPE OF BIT		415 1/2	
3. DRILLING AGENCY		W. G. JACOBS		11. DAY OF ELEVATION SHOWN (TBM or REL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		L-20/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		6	
7. THICKNESS OF OVERBURDEN		0 996.5		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		22.9		16. DATE HOLE		STARTED 2/13/89 COMPLETED 2/13/89	
9. TOTAL DEPTH OF HOLE		474.1		17. ELEVATION TOP OF HOLE		496.5	
				18. TOTAL CORE RECOVERY FOR BORING		22.9	
				19. SIGNATURE OF INSPECTOR		LMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SCORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.5	1		SANDSTONE			PULL #1	
	2		dk. gr., m.h., f.g., ocl			START 16:55	
	3		SLT BKN PN. 0.4 SPACING			END 17:12	
493.5	4		CLS			TIME 17min	
492.8	5		GR. S. SCARPLY BKN 2-3.6			DRL 17min	
	6		SANDSTONE			RAN 4.7	
	7		LT. GR., m.h., m. m. - c.g.			REC 4.7	
	8		CL. LEM. 3.7-4.7 BKN PN			LOSS 0	
	9		.3 SPACING FEW OCL.			UNACCL 0	
488.7	10		CLS FRAS + STAINERS			DCP+T/DCP 4.9	
488.2	11		Through out			PULL #2	
	12		CLS			START 17:18	
	13		GR. S. S.H.			END 17:26	
	14		SLT			TIME 8min	
	15		GR. DK. GR., m.h., SQ			DRL 8min	
	16		CL SEAM 9.9-10.0			RAN 5.2	
485.8	17		BKN 10.3-10.7			REC 4.9	
	18		SANDSTONE			LOSS 0.2	
	19		GR. m.h. f.g., ocl SLT			UNACCL 0.2	
	20		COL. CM., 11.0-11.8, 14.0-			DCP+T/DCP 9.9	
	21		15.2, silty w/ BKN PN.			PULL #3	
	22		15.2-15.9, 12.9-13.9			START 17:37	
	23		PN w/CL COATING @ 13.5			END 18:06	
	24		BKN 15.5-15.7, 18.1-18.2			TIME 29min	
	25		SLT GR, S, SH,			DRL 29min	
	26		(CONT)			RAN 4.6	
	27					REC 4.6	
	28					LOSS 0 UNACCL 0	
	29					DCP+T/DCP 19.5	
	30					PULL #4	
	31					START 18:14	
	32					END 18:22	
	33					TIME 8min	
	34					DRL 8min	
	35					RAN 5.1	
	36					REC 5.1	
	37					LOSS 0	
	38					UNACCL 0	
	39					DCP+T/DCP 19.6	
	40					PULL #5	

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.5		Hole No. R-70/1	
PROJECT GALLIPOLIS Lock & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	20		SLS			PULL #5
	21		GR. m. H. SQ		6	START 18:36
	22					END 18:45
			BOTTOM HOLE			TIME 9min
494.1					22.9	DRN 9min
	23					RAW 2.8
	24					REL 2.8
	25					LOSS 8
	26					UNACCL 8
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS		
1. PROJECT <b>GALLIPOLIS Lock + DAM</b>		<b>ORD</b>	<b>OPEN-ED</b>			
2. LOCATION (Coordinates or Station) <b>MOAB R-20 STA 17+44.8</b>			10. SIZE AND TYPE OF BIT <b>4 1/2 IN</b>			
3. DRILLING AGENCY <b>W. G. JACQUES</b>			11. DAYTON ELEVATION BRUSH (FT or IN) <b>M.S.L</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-20/2</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
5. NAME OF DRILLER <b>DENNIS THOMPSON</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED <b>N/A</b>	UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES <b>7</b>			
7. THICKNESS OF OVERBURDEN <b>496.2</b>			15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>22.1</b>			16. DATE HOLE <b>2/13/89</b>	STARTED <b>2/13/89</b>	COMPLETED <b>2/13/89</b>	
9. TOTAL DEPTH OF HOLE <b>474.1</b>			17. ELEVATION TOP OF HOLE <b>496.2</b>			
			18. TOTAL CORE RECOVERY FOR BORING <b>22.1</b>			
			19. SIGNATURE OF INSPECTOR <b>IMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	1		SANDSTONE / SLS GR, M. H., F-VER GR, SLT, 0.4-0.8, 1.4-2.2, SLS GR. M.H.			PULL #1 START 20:30 END 20:40 TIME 10 min DRL 10 min RAW 4.7 REC 4.7
493.9	2		SA 0.0-0.9-0.8-1.4, 2.2-2.8 NUM ANG 20°, 30° BW, 102 SPACING BEN THROUGHOUT		3.8	LOSS 0 UNACC 0 DCP 4.7
	3		SANDSTONE GR-LTGR, M.H., F. GR SLS GR. M.H. S. 4.5-5.0 FATTY CL. SCAM 5.6-5.8 GR. M. GR below 6.1 + cal CCM @ 6.3-6.5		2	PULL #2 START 20:55 END 21:05 TIME 10 min DRL 10 min RAW 5.1 REC 5.1
489.9	4				3	LOSS 0 UNACC 0
	5				10.0	DEP 9.8
486.2	6		SLS GR-GN GR, S-M.H., SA, FATTY CL. SCAM (GR) 6.8-6.9 GR. SH. below 9.8 CLS GR-GN GR, S. SA BKN 6.9 TA BEN 9.3-9.8		4	PULL #3 START 21:37 END 21:47 TIME 10 min DRL 10 min RAW 4.8 REC 4.8
	7				13.7	LOSS 0 UNACC 0 DCP 14.6
	8				5	PULL #4 START 22:00 END 22:10 TIME 10 min DRL 10 min RAW 4.8 REC 4.8
	9				17.3	LOSS 0 UNACC 0 DCP 19.5
	10				6	LOSS 0 UNACC 0
	11				(CONT)	DEP 19.5
	12		SANDSTONE LT. GR., M. H., F. GR., SH SCAM 12.0-12.2 13.4-13.5, 15.9-16.0 SLT below 20.6			PULL #5 (CONT)
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20		(CONT)			

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PROJECT HOLE NO.  
GALLIPOLIS LOCK + DAM R-20/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.2		Hole No. R-20/2	
PROJECT GALLIPOLIS LOCK+DAM			INSTALLATION ORH-LD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21				21.0	START 22:20
					7	END 22:30
979.1	22		BOTTOM HOLE		22.1	TIME 10 min
						DRL 10 min
	23					RAW 2.6
	24					REL 2.6
	25					LOSS 0
	26					UNACCD
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

Hole No. **R-21/1**

DRILLING LOG		DIVISION <b>OLD</b>	INSTALLATION <b>DEH-CP</b>	SHEET <b>1</b> OF 1 SHEETS
1. PROJECT <b>Gallipolis Lock &amp; Dam</b>			10. SIZE AND TYPE OF BIT <b>4 X 5 1/2"</b>	
2. LOCATION (Coordinates or Station) <b>MONO R-21 STA 17429 B</b>			11. DATUM FOR ELEVATION SHOWN (FEM or MSL) <b>M.S.L.</b>	
3. DRILLING AGENCY <b>W. G. JAMES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B.-53 mobile</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>R-21/1</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN
5. NAME OF DRILLER <b>STEVE FRY</b>			14. TOTAL NUMBER CORE BOXES <b>6</b>	15. ELEVATION GROUND WATER <b>N/A</b>
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			16. DATE HOLE <b>2/15/89</b>	16. DATE HOLE <b>2/13/89</b>
7. THICKNESS OF OVERBURDEN <b>0 496.2</b>			17. ELEVATION TOP OF HOLE <b>496.2</b>	
8. DEPTH DRILLED INTO ROCK <b>22.9</b>			18. TOTAL CORE RECOVERY FOR BORING <b>22.4</b>	
9. TOTAL DEPTH OF HOLE <b>473.8</b>			19. SIGNATURE OF INSPECTOR <b>JMD</b>	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	1		SANDSTONE		Box 1	PULL #1 START 19:18 END 20:05 TIME 47 min DRL 47 min RAN - REC 4.8 LOSS 0
493.7	2				39	UNACL 0 T/DEP 4.8
	3		ICL		Box 2	PULL #2 START 20:30 END 20:45 TIME 15 min DRL 15 min RAN - REC 2.8 LOSS 2.0
	4		S. PLASTIC, GR, CL, @ 5.2		73	UNACL 2.0 T/DEP 9.6
	5		0.4 SS, S.G., 0.1, S., CL @ 6.0		Box 3	PULL #3 START 20:55 END 21:06 TIME 11 min DRL 11 min RAN - REC 4.4 LOSS 0.4
	6		S.G., S.G., 6.0 TO 9.6 2.0		Box 4	PULL #4 START 21:30 END 21:45 TIME 15 min DRL 15 min RAN - REC 5.0 LOSS 0
	7		LOSS @ 4.8-9.6, 0.4, S.		16.7	UNACL 0 T/DEP 19.4
	8		CLS @ 9.6		Box 5	PULL #5 (CONT)
	9				20.0	
486.0	10		SANDSTONE		20.0	
	11		M.H. P.G. GR. MASS 0.1, 9.4,			
	12		@ 12.9 0.3 CLS 13.2			
	13		0.4 LOSS 9.6-14.4 grad			
	14		FINER GRAIN + S/W/DEP			
	15		0.1 CLS @ 17.0 grading			
	16		TO CLS @ 19.0			
	17					
	18					
	19					
	20					



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 456.2		Hole No. R-21/1	
PROJECT GALLIPOLIS LOCK I DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #5
	21				Box 5	START 21:55 REC 29 END 22:04 LOSS 0 TIME 9min UNACD DR 9min RAW -
473.8	22		CLS		22.9	TIDE P 22.3
	23					
	24					
	25					
	26					

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>		ORD		QEH-CD			
2. LOCATION (Coordinates or Station) MENO R-21 STA 17+19.8				10. SIZE AND TYPE OF BIT 4 1/2" V		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.	
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-21/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A			
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 6			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.6				16. DATE HOLE STARTED 2/20/89 COMPLETED 2/20/89			
8. DEPTH DRILLED INTO ROCK 21.7				17. ELEVATION TOP OF HOLE 496.6			
9. TOTAL DEPTH OF HOLE 479.9				18. TOTAL CORE RECOVERY FOR BORING 21.7			
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.6			SLS			PULL #1	
495.5	1		GR. M.H., SA BKN 0.0-0.2 spacing			START 10:52	
			SANDSTONE			END 11:07	
494.5	2		GR. - LT. GR., M. H. F. GR		1	TIME 15 min	
			SLS			DRL 15 min	
493.4	3		GR., M.H., SA, DN, ANG. 45°			RAW 4.8	
			Z.B-3.1			REC 4.5	
	4		CLS		3.8	LOSS 0.3	
			DKGR. S. Scupperly BKN 3.4-4.8			UNACQ 0.3	
491.2	5		W/O.3 LC			TIDP 9.8	
	6		SANDSTONE		2	DEP 5.6	
489.5	7		LTGR, M.H. - H.H. M-FGR. BKN DN			PULL #2	
			spacing calcem., 5.7-6.1-6.5-7.1			START 11:17	
488.5	8		CLS		7.6	END 11:39	
			GR. S. SH.			TIME 12 min	
	9		SLS			DRL 12 min UNACQ	
486.4	10		GR, S-M.H. SH, SS. GR, M.H.		3	RAW 4.7	
			F-VE.F., SLT B.1-8.9, Scupperly			REC 4.7	
			BKN 9.2-9.5			LOSS 0	
	11		SANDSTONE		11.1	TIDP 9.5	
	12		GR - LTGR., M.H. FGR, BKN			DEP 9.8	
	13		DN. 0.7 spacing, Scupperly		4	START 11:40	
	14		BKN 12.3-12.5 w/LC.1			END 11:56	
	15		SLT 12.3-19.0			TIME 12 min	
	16					DRL 12 min	
	17				4	RAW 9.9	
	18					REC 9.9	
	19				19.5	LOSS 0	
477.6	20					UNACQ 0	
			SLS (CONT)			TIDP 19.8	
					6	DEP 19.9	
					(CONT)	PULL #3	
						START 12:40	
					5	END 12:53	
						TIME 13 min	
						DRL 13 min	
					18.0	RAW -	
						REC 3.7	
					6	LOSS 0.1	
					(CONT)	UNACQ 0.1	
						DEP 18.8	
						PULL #4	
						START 1:05	
						END 1:13	

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PROJECT HOLE NO.  
GALLIPOLIS LOCK + DAM R-21/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock + DAM		496.6		R-21/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS.		6	PULLHS
	21		GR; S-MH, SA, clayey f.o.-fs			Time 8 min
479.9			Sg below 20.1		21.7	DRL 8-min LOSS @ RRR - UNKLE D RSC 3.9 DEPTH 7
	22		BOTTOM HOLE			
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MONO R-22 STA 16+90.8</b>				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACQUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOB. &amp; E</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-22/1</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>STEVE FRY</b>				14. TOTAL NUMBER CORE BOXES <b>6</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0 496.5</b>				16. DATE HOLE STARTED <b>2/13/89</b> COMPLETED <b>2/20/89</b>			
8. DEPTH DRILLED INTO ROCK <b>22.1</b>				17. ELEVATION TOP OF HOLE <b>496.5</b>			
9. TOTAL DEPTH OF HOLE <b>477.4</b>				18. TOTAL CORE RECOVERY FOR BORING <b>22.1</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.5	1		SANDSTONE			PULL #1	
	2		GR-LTGR. M.H.-H.H., F-MGR		1	START 22:35	
	3		OC. CAL, COM. BKN DN 10			END 22:42	
	4		SPACING, BKN DN 0.3			TIME 7min	
	5		SPACING ABOVE 1.3, CAL, COM,			DPL 7min	
	6		1.2-1.6 SCL, BKN			RAW 4.4	
492.8	7		CLS		3.8	REC 4.3	
	8		BR-GR, S, ANG, DN, 30° 6.8-6.9			LOSS 0.1	
488.7	9		SC Below 7.4			UNAC 0.1 DCP 4.4	
	10		SANDSTONE			PULL #2	
	11		GRAY, M-H, F. GR		2	START 22:53	
	12		FCW BKS, LG. FGR (S17)			END 23:03	
	13		7.8-9.7, 13.7-15.5			TIME 10min	
	14		SLS GR. M.H. SC 17.3			DPL 10min	
	15		18.4		7.4	RAW 4.6	
	16					REC 4.1	
	17				3	LOSS 0	
	18					UNAC 0 DCP 9.0	
	19					PULL #3	
	20				11.0	START 23:12	
	21					END 23:24	
	22					TIME 12min	
	23					DPL 12min	
	24				4	RAW 5.1	
	25					REC 5.1	
	26					LOSS 0	
	27					UNAC 0	
	28				14.6	DCP 14.1	
	29					PULL #4	
	30				5	START 7:40	
	31					END 8:02	
	32					TIME 22min	
	33					DPL 22min	
	34					RAW 3.7	
	35					REC 3.5	
	36				18.3	LOSS 7.2	
	37					UNAC 0.2	
477.1	38				(CONT)		
	39					PULL #5	
	40					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS LOCK & DAM R-22/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS		6	PULLHS
	21		GR, M.H., SQ, HIGHWAY			START 8:20
			FRAC 11.5-19.9			END 8:35
479.7	22		SANDSTONE		22.1	Time 15 min DCP 22.1
479.5			GR. M. H. F. GR			DPL 15 min
	23		BOTTOM HOLE			RHA 4.3
	24					RSC 4.3
	25					LOSS 0
	26					UNRECOR
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836  
MAR 71

PROJECT
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PROJECT  
GALLIPOLIS Locks & Dam

Page 64

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.4		Hole No. R-22/2		
PROJECT GALLIPOLIS Locks & Dam		INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH 10.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.4			SANDSTONE - Sly., f.g., gr., m.h.		BOX 3 Cont.	T. DEP. 10.1 (PULL-OFF) PULL-3 (Cont.)
	11		bkn. (mech.) 485.9-485.2		11.8	
			bkn. (mech.) 484.8			DEP 11.1
	12		o, hor., sli. coa. ph. @ 484.2		4.	PULL-4 START-1140 END-1157 TIME-17 min. Drl. -17 min RAN. 3.4 REC. 4.1 Gain. 0.7 Unacc. 0.0
	13		Sand content increasing w/ depth			
482.1	14.3		grading			
			SANDSTONE, Sly., m.g., m.h.-h., m.gr w/ occ. sli. ang., shy ph.		14.6	T. DEP. & DEP. 14.6
	15					PULL-5 START-1300 End - 1314 Time - 14 min. Drl. - 14 min RAN. - 4.1 REC. - 4.0 Loss - 0.1 Unacc. - 0.0
	16				5.	
	17					
	18		cl. coa., ang. ph. @ 478.4		18.4	T. DEP. 18.0 (Soft.)
						DEP 18.7
	19					PULL-6 START- 1345 End - 1355 Time - 10 min. Drl. - 10 min. RAN - 3.3 REC. - 3.4 GAIN - 0.1 Unacc - 0.0
	20				6	
	21					
474.4	22		BOTTOM OF HOLE (required depth)		22.0	DEP & T. DEP 22.0

ENG FORM 1836-A  
JUN 67

PROJECT GALLIPOLIS Locks & Dam  
HOLE NO. R-22/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 1 SHEETS	
1. PROJECT GALLIPOLIS LOCKS & DAM				10. SIZE AND TYPE OF BIT 4" X 5 1/2"			
2. LOCATION (Coordinate or Station) MONB R-23				11. DAYON FOR ELEVATION SHOWN (YEN or MSL) M.S.L.			
3. DRILLING AGENCY W.G. JAGUES Co.				12. MANUFACTURER'S DESIGNATION OF DRILL MOBILE B-53			
4. HOLE NO. (As shown on drawing title and file number) R-23/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER FRANK BAKER				14. TOTAL NUMBER CORE BOXES 10		15. ELEVATION GROUND WATER	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED 11-15-88 COMPLETED 11-16-88			
7. THICKNESS OF OVERBURDEN 0.0				17. ELEVATION TOP OF HOLE 496.6			
8. DEPTH DRILLED INTO ROCK 36.3				18. TOTAL CORE RECOVERY FOR BORING %			
9. TOTAL DEPTH OF HOLE 36.3				19. SIGNATURE OF INSPECTOR <i>W. J. J. J.</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.6	0.0		- 0.1 L.C. @ 496.6 - 496.8 SANDSTONE, sly, f.-m.g., m.h. w/acc. dk. mic. lam. closely spaced, near hor. plyr. along mic. lam. 496.3 - 496.1		Box	PULL-1 START- 1446 END - 1500 TIME - 14 min. Drl - 14 min RAN - 4.7 REC - 4.6 Loss - 0.1 UNACC - 0.1	
	1				1.		
	2						
	3						
	4				3.8		
	5					END OF SHIFT DEP. & T. DEP. 4.7 11-16-88	
	6				2	PULL-2 START 0830 END 0842 TIME 12 min. Drl. 12 min. RAN. 2.7 REC. 2.1 Loss - 0.6 UNACC - 0.0	
489.9	6.7		- 0.1 S. gr. cl. 489.9 - 489.8 INDURATED CLAY, S., r. br. slk. vc. bkn 489.8 - 489.4		7.2	6.5 T. Dep. Soft. 6.8 Bkn (lost)	
	7					DEP. 7.4	
	8					PULL-3 START 0901 END 0913 TIME 12 min. Drl. 12 min. RAN 4.0 REC. 3.8 Loss 0.2 UNACC 0.3	
	9				3.		
	10						

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(TRANSLUCENT)

PROJECT GALLIPOLIS Locks & Dam HOLE NO. R-23/1



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.6		Hole No. R-23/1		
PROJECT GALLIPOLIS Locks & Dam		INSTALLATION OR H-CD		SHEET 2 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.6	10.0		ICL (cont.) - 0.3 L.C. - Accum. btwn. 489.9 & 486.3		3	10.3 T. Dep. & B/H Test. (Soft)
484.3	10.3		SILTSTONE, cly/sz., gr., 8.-m.h.		Box	
	11					DEP. 11.4
	12		ve. bkn. (mech.) 485.7 - 484.1 y 0.5 L.C.		4.	PULL - 4 START - 0944 END - 0954 Time - 10 min Drl. - 10 min Ran. 1.9 Rec. 2.2 Gain. 0.3 Unacc. 0.5
483.4	13		CLS., sly. 484.1 - 483.4			- B/H 13.0 (est.)
	14		SILTSTONE - sz., m.h., gr., mic., occ. shy. overcored 483.4 - 483.4			DEP. & T. Dep. 13.3
	15		pty. (mech.) @ 482.6		14.4	PULL - 5 START - 1020 END - 1030 Time - 10 min Drl. - 10 min RAN - 4.3 REC. - 4.5 GAIN. - 0.2 UNACC. - 0.0
	16		shy. pty. @ 481.9			EST. Found ELEV. (481.0)
	17		pty. (mech.) @ 481.5			T. Dep. 16.5 Soft
	18		shy. pty. @ 480.1		5.	
479.6	17		grading SANDSTONE - sly., f.g., m.h., o., ha., irr. frac. 479.1 - 478.7			B/H 17.5 (est.) DEP 17.6
	19		pty. (mech.) @ 478.1		17.8	PULL - 6 START - 1050 END - 1100 Time - 10 min Drl. - 10 min Ran. 5.0 REC. 5.0 Loss. 0.0 Unacc. 0.0
	20		pty. (mech.) @ 477.4			
	21		pty. (mech.) @ 476.6		6	
	22		pty. (mech.) @ 476.4			
	23		pty. (mech.) @ 475.9			
475.2	21.4		grading SANDSTONE, sly., f.-m.g., m.h., gr., occ. sly.		21.7	
	22				7	

ENG FORM  
JUN 67 1836-A

GPO 1969 OF-329-243

PROJECT GALLIPOLIS Locks & Dam HOLE NO. R-23/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.6		Hole No. R-23/1	
PROJECT GALLIPOLIS Locks & Dam		INSTALLATION ORH-CD		SHEET 3 OF 4 SHEETS	
ELEVATION a 574.8	DEPTH b 22.0	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f
					Box
					T. Dep. 22.5 DEP 22.6
	23		-ptg. (mech.) @ 473.5		7.
	24		-ptg. (mech.) @ 472.5		
	25		-ptg. (shy.) @ 472.1 -ptg. (shy.) @ 471.9		
					25.3
	26				T. Dep. 26.0
	27				8 Alt (est.) 26.7
			-ptg. (mech.) @ 469.3 -ptg. (mech.) @ 469.0		
	28				DEP 27.5
	29				PULL-8 START-1315 End-1324 Time-9 min Drl.-9 min Rtn-4.1 REC. 4.9 Gain. 0.8 Unacc. 0.0
	30				29.0
	31		-shy. ptg. @ 467.2		
					9.
			-slg. w/ptg. along ho. fracs. 466.1-465.5		
	32				T. Dep. 31.6 DEP 31.6
					PULL-9 START-1343 End-1348 Time-5 min Drl. 5 min Rtn 4.8 REC. 4.7 Loss. 0.1 Unacc 0.0
	33				32.6
					10.
	34		-ptg. (mech.) @ 462.6		

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-325-243

PROJECT GALLIPOLIS Locks & Dam  
HOLE NO. R-23/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.6		Hole No. R-23/1	
PROJECT GALLIPOLIS Locks & Dam		INSTALLATION ORH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a 462.6	DEPTH b 34.0	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f Box 10
			REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g		
35			pty. (mesh.) @ 461.6		
36					
460.3	36.3		BOTTOM OF HOLE (REQUIRED DEPTH)		B/H & T. DEP. 36.3' B/H IN HOLE DEP. 36.4'
37					

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		ORD		ORH-CD		1 OF 4 SHEETS	
2. LOCATION (Coordinate or Station) <b>MONO R-23 15A</b>		10. SIZE AND TYPE OF BIT <b>4 1/2" M.S.L.</b>		11. BAYON FOR ELEVATION SMOOTH (YES or NO) <b>N/A</b>			
3. DRILLING AGENCY <b>W. G. JADUES</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>R-23/2</b>		14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>NA</b>			
5. NAME OF DRILLER <b>DAVID HARPER</b>		16. DATE HOLE		STARTED <b>11/17/88</b>		COMPLETED <b>11/17/88</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE <b>496.5</b>		18. TOTAL CORE RECOVERY FOR BORING <b>35.5</b>			
7. THICKNESS OF OVERBURDEN <b>0.0 496.5</b>		19. SIGNATURE OF INSPECTOR <b>DAVID NUGEN, JMD</b>					
8. DEPTH DRILLED INTO ROCK <b>35.6</b>							
9. TOTAL DEPTH OF HOLE <b>460.9</b>							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.5	0.0		SANDSTONE - f.m.g., m.h., gr. w/ dk. mic. lam.		Box	PULL-1 START: 1410 End - 1423 Time - 13 min Drl - 13 min RAN - 4.7 REC - 4.7 LOSS - 0.0 Unacc 0.0	
	1		m. spaced ptg. along mic. lam. throughout		1		
	2						
	3						
	4				3.7	D.W.R. 6006, gr.	
	5					DEP. & T. DEP. 4.7	
	6				2.	PULL-2 START - 1432 End - 1438 Time - 6 min Drl - 6 min RAN - 2.7 REC - 2.5 LOSS - 0.2 Unacc - 0.0	
489.3	7.2		S. fat gr. sl. on contact		7.2	T. Dep. 7.0 B/N (Est.) 7.2	
	8		INDURATED CLAY - S., SIL., gr. - r.br.			DEP 7.4	
	9		ve. blk. 488.8-488.5			PULL-3 START: 1452 End - 1500 Time - 8 min Drl - 8 min RAN 2.3 REC 2.5 GAIN 0.2 Unacc. 0.0	
	10		ve. blk. 488.0-487.5		3	T. Dep. 9.5 END SHIF. B/N & DEP. 9.7 11-18-88	

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MAR 71 (TRANSLUCENT)

PROJECT  
**GALLIPOLIS LOCK & DAM**  
HOLE NO.  
**A-23/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.5		Hole No. R-23 1/2		
PROJECT		INSTALLATION		SHEET 2 OF 4 SHEETS		
ELEVATION a	DEPTH 10.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.5			JCL (Cont.)		130X 3	PULL-4 START-0752 End-0804 Time-12 min Drl.-12 min Ran.-2.8 Rec.-2.2 Loss-0.6 Unacc-0.0
484.6	11.9		S. gr. cl. con. contact			T. Dep.-11.9
	12		SILTSTONE, sh., shg., m.h., gr.		4	DEP-12.5
	13					PULL-5 START-0828 End-0844 Time-16 min Drl. 16 min Ran. 3.8 Rec. 4.1 Gain-0.3 Unacc-0.0
	14		bkn. @ shg. 80. 482.8-482.7		14.2	
	15					
	16		overcored 480.6-480.4		5	Temp. sand 481.0 T. DEP. 15.9
	17		shg. ptg. @ 479.9			DEP 16.3 USING 10' I.L. Double tube, 4"x5 1/2" core bbl.
	18				17.8	PULL-6 START-0922 End-0949 Time-27 min Drl.-27 min Ran-7.9' Rec-8.0' Gain-0.1' Unacc-0.0
	19					
	20					
	21					
474.9	21.6		grading into SANDSTONE, sh., f.g., m.h., m.c. gr.		21.6	
	22		bar, spm. ptg. @ 474.6		7	

ENG FORM  
JUN 67 1836-A

GPO: 1965 OF-329-243

PROJECT

GALLIPOLIS LOCK #1 DAM

HOLE NO.

R-23 1/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 3 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.5	22.0		SS. (Cont.) occ. dk. sly. lam. & 80s.		Box	
	23		spun. mech. ptg. @ 473.8		7	
	24		spun. mech. ptg. @ 473.4			23.9 T. Dep. DEP 24.2
	25				25.1	PULL-7 START- 1015 End - 1028 Time - 13 min Dr1 - 13 min Ran - 9.5 REC - 9.8 GAIN - 0.3 Unacc 0.0
	26		ptg. (mech.) @ 470.3		8	
	27					
	28		ptg. (mech.) @ 468.3			
	29				28.8	
	30		m. spaced ptgs. along dk. sly. lam. 467.7 - 466.4		9	
	31		ptg. (mech.) 465.4			
	32				32.4	
	33				10	
	34					DEP. & T. DEP. 33.7

ENG FORM 1836-A  
JUN 67

GPO. 1969 OF-329-243

PROJECT

GALLIPOLIS LOCK DAM R-23/2

HOLE NO.

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.5		Hole No. R-23 1/2	
PROJECT			INSTALLATION		SHEET 4 OF 4 SHEETS	
ELEVATION a 462.5	DEPTH b 34.0	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SS. (cont.)		Box	
	35				10	
			BOTTOM OF HOLE (REQUIRED DEPTH)			PAY DEP. 35.6
	36					
	37					Drilled DEP. 37.1
	38					
	39					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT

6AKLIPOLIS LECK DAM

HOLE NO.

R-23 1/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORH		ORH-CD		D-1	
2. LOCATION (Coordinate or Station)		GALLIPOLIS ROCK DAM		10. SIZE AND TYPE OF BIT		4" X 5/8"	
3. DRILLING AGENCY		MONO R-24		11. DATUM FOR ELEVATION SHOWN (TBM or MLL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-24/1		12. MANUFACTURER'S DESIGNATION OF DRILL			
5. NAME OF DRILLER		DAVID HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0.0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		35.5		16. DATE HOLE		STARTED 11-16-88	
9. TOTAL DEPTH OF HOLE		46.5		17. ELEVATION TOP OF HOLE		496.5	
				18. TOTAL CORE RECOVERY FOR BORING		35.5	
				19. SIGNATURE OF INSPECTOR		JMN	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.5	0.0		SANDSTONE - f.m.g., m.h., gr. m.c.		Box	11-16-88	
	1		sta. 496.5-496.4			PULL-1	
	2		mk. ph. c 496.3; 495.3;		1	START- 1437	
	3		495.5; 495.3, 495.0,			End - 1446	
	4		494.6 + 494.1.			Time - 9 min.	
	5					Drl. - 9 min	
	6					RAN - 5.0	
	7					REC - 4.9	
	8					Loss - 0.1	
	9					Unacc. 0.0	
	10						
	11						
	12						
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DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.5		Hole No. R-24/1	
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION ORH-CD		SHEET 2 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.5	10.0		CLAYSTONE, gr., s., w/ occ. sil. ptgs.		3.	PULL-4 START-0830 End-0834 Time-4 min Drl.-4 min RAN-1.6 REC-1.2 LOSS-0.4 UNACC-0.1
	11				10.9	10.9 EST. DEP
						DEP 11.1
484.5	12		grading into SILTSTONE - gr., shy., m.h.		4.	PULL-5 START-0836 End-0902 Time-10 min Drl.-10 min RAN-3.0 REC-3.2 GAIN-0.2 UNACC-0.0
	13		ptg. @ 484.0, 483.8, 483.5, 483.3			13.5 T. DEP
	14					B/H & DEP-14.1
			bkn. w/ core spins @ 481.7-481.5		14.6	PULL-6 START-0933 End-0942 Time-9 min Drl.-9 min RAN-2.0 REC-2.0 LOSS-0.0 UNACC-0.0
481.4	15		grading into SANDSTONE, sly., f.g., m.h., gr.; occ. shy. lam / 20s.			15.7 DEP
	16		mech. ptg. @ 480.6		5.	B/H & DEP-16.1
			ptg. @ shy. 20. @ 480.1			PULL-7 START-1000 End-1015 Time-15 min Drl.-15 min RAN-4.3 REC-4.3 LOSS-0.0 UNACC-0.0
	17		ptg. @ shy. 20. @ 479.9			
			ptg. @ shy. 20. @ 479.4		18.1	
	18		mech. ptg. @ 478.2			
	19		bkn. ptgs @ shy. 20 @ 477.6		6.	22.0 T. DEP
			mech. ptg. @ 477.2			B/H & DEP-20.4
	20		closely spaced, hor ptgs. (prob. mech.) 476.7-476.1			
			send content increasing w/depth		21.6	
	21		mech. ptg. @ 475.1		7.	
	22					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-24/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		3 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
479.5	22.0		SS. (cont.)		Box	PULL-8 START- 1044 End - 1055 Time - 11 min. Drl. - 11 min. RAW - 4.9 REC - 4.9 Loss - 0.0 UNACC. - 0.0
	23		- mech. ptg. @ 474.3		7.	
			- mech. ptg. @ 474.0			
	24		- mech. ptg. @ 473.3			
			- mech. ptg. @ 473.0			
			- mech. ptg. @ 472.8			
	25		- mech. ptg. @ 472.0			24.4 T. DEP
	26				25.3	B/H & DEP. 25.3
	27		- mech. ptg. @ 469.7		8.	PULL-9 START- 1123 End - 1135 Time - 12 min. Drl - 12 min. RAW - 3.9 REC - 3.9 Loss - 0.0 UNACC. 0.0
	28		- mech. ptg. @ 468.8			
			- mech. ptg. @ 468.0			
	29				28.9	28.7
	30		- mech. ptg. @ 466.8			B/H & DEP. 29.2
			- mech. ptg. @ 466.3			
	31		- mech. ptg. @ 465.7		9.	PULL-10 START- 1240 End - 1248 Time - 8 min Drl - 8 min RAW - 4.6 REC - 4.4 Loss - 0.2 UNACC. - 0.0
	32		- mech. ptg. @ 464.8			
			- mech. ptg. @ 464.5			
	33		- mech. ptg. @ 463.5			32.6
						33.0 T. DEP
	34				10.	33.4 EST. DEP. DEP. 33.8

ENG FORM  
JUN 67 1836-A

CPO 1960 OF-329-243

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-24/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		4 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.5	34.0		SS. (cont.) Mech. plg. @ 462.4		Box 10	PULL-11 START- 1321 End - 1330 Time - 9 min. Drl - 9 min Rtn - 1.7 RAC - 1.9 Gain 0.2 Unacc. 0.0
460.8	35.7		Thin. mic. lam., sli. wea. 461.3 - 460.8 BOTTOM OF HOLE (REQUIRED DEPTH)			B/H - DEP 35.7
	36					
	37					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-328-243

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO

R-24/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 1 SHEETS	
1. PROJECT <b>GALLIPOLIS Locks &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4" x 5 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MONO. R-24</b>				11. DATUM FOR ELEVATION SHOWN (TBM or B.S.) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W.G. JACQUES Co.</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-24/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
						UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVID HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>11</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>—</b>			
7. THICKNESS OF OVERBURDEN <b>0.0 (496.8)</b>				16. DATE HOLE STARTED <b>11-18-88</b> COMPLETED <b>11-21-88</b>			
8. DEPTH DRILLED INTO ROCK <b>35.9</b>				17. ELEVATION TOP OF HOLE <b>496.8</b>			
9. TOTAL DEPTH OF HOLE <b>35.9 (460.9)</b>				18. TOTAL CORE RECOVERY FOR BORING <b>%</b>			
				19. SIGNATURE OF INSPECTOR <i>David Harper</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.8	0.0		SANDSTONE - sly., f.-m.g., m.h., m.gr. w/ thin mic. lam. 0.1 L.C. (mach.) 496.8-496.7 0.1, less, vert. frac. 496.7-496.3:		Box	PULL-1 START- 1245 END - 1300 TIME - 5 min. Drl. - 5 min. RAN - 4.6 REC. - 4.0 Loss - 0.6 UNACC. - 0.1	
	1				1		
	2						
	3						
	4				3.6	4.1 T. DEP	
	5		Spun. overcored 492.7 - 492.3			DEP. 4.6	
	6				2.	PULL-2 START- 1318 END - 1321 TIME - 3 min. Drl. - 3 min. RAN - 2.9 REC. - 3.2 GAIN - 0.3 UNACC. - 0.0	
489.7	7		INDURATED CLAY, S., r. br.-gr., slk. S., fat, gr. cl. 489.7-489.5		7.1	7.3 T. DEP	
	8					DEP. 7.5	
	9				3.	PULL-3 START- 1352 END - 1405 TIME - 13 min. Drl. - 13 min. RAN - 1.9 REC. - 2.1 GAIN - 0.3 UNACC. - 0.0	
	10					T. DEP & DEP. - 9.4	

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(TRANSLUCENT)

PROJECT **GALLIPOLIS Locks & DAM**

HOLE NO. **R-24/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Locks & Dam		ORH-CD		2 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.8	10.0		ICL (cont.)		3.	PULL-4 START- 1448 END - 1502 TIME - 14 min. Drl. - 14 min. RAN - 4.3 REC. - 3.8 LOSS - 0.5 UNACC. - 0.2
	11		prob. Area of 0.5 L.C. (mech.) 486.3 - 485.8		10.5	
	12		S. 485.2 - 484.6		4.	
484.6	12.2					
	13		CLAYSTONE - sly., gr., S.			
			0.15 S.gr. cl. @ 483.1 - 482.95			13A T.DEP END OF SHIFT DEP. 13.7 11-21-88
482.7	14		cl. coo. ptg. @ 482.8		14.1	PULL-5 START- 0752 END- 0800 TIME- 8 min. Drl. - 8 min. RAN - 3.9 REC - 3.9 LOSS - 0.0 UNACC. 0.0
	15		SILTSTONE - sa., occ. shg., gr., m.h.			
	16		gr. cl. coo. ptg. @ 481.3		5.	FOUND. (EL. 481.0)
	17		mech. ptg. @ 480.6			16.5 T.DEP.
	18		mech. ptg. @ 480.2			17.3 est. DEP.
	19		mech. ptg. @ 479.6		17.6	DEP. 17.6
	20		Sand content increasing w/depth.			USING 10' core bbl.
478.0	18.8					PULL-6 START- 0840 END- 0900 TIME- 20 min Drl. - 20 min. RAN - 8.1 REC. - 8.1 LOSS - 0.0 UNACC. - 0.0
	21		SANDSTONE, sly., f.g., m.h., m.q. w/ occ. sly. lam. & zo.		6.	
	22		sly. zo. 477.6 - 477.3			
					21.4	
			sly. zo. 475.6 - 475.4		7.	
			closely spaced hor. ptgs. 475.1 - 474.3			

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Locks & DAM		ORH-CD		3 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.8	22.0		SS. (Cont.)		BOX	
	23				7.	
	24					
	25				25.0	24.6 T. DEP
471.1	25.7		grading			25.4 EST. DEP
	26		SANDSTONE, sly, f.-m.g., m.h., gr. w/ thin, dk. mic. lam.		8.	PULL-7 START- 0936 END- 0951 TIME- 15 min. Drl. 15 min. RAN 8.8 REC. 8.8 LOSS 0.0 UNACC. 0.0
	27		occ. phys. along mic. lam.		27.8	
	28					
	29				9.	
	30					
	31				31.4	
	32					
	33				10.	
	34					33.9 T. DEP.

ENG FORM  
JUN 67 1836-A

OPD 1865 OF-329-242

PROJECT  
GALLIPOLIS Locks & DAM

HOLE NO  
R-24/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Locks & DAM		ORH-CD		4 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.8	34.0		SS. (cont.)		Box	EST. DEP.
	35				10.	DEP. 34.5
					35.0	PULL-8 START - 1025 END - 1035 TIME - 5 min D.R. - 5 min R.A. - 1.4 R.C. - 1.7 LOSS - 0.0 UNACC. 0.0
					11.	35.6 DEP.
			BOTTOM OF HOLE (REQUIRED DEPTH)			DEP 35.9
	36					
	37					

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 4 SHEETS	
1. PROJECT GALLIPOLIS Locks & DAM				10. SIZE AND TYPE OF BIT 4" X 5 1/2"			
2. LOCATION (Coordinate or Station) MOAD. R-25				11. DAY OF YEAR ELEVATION SHOWN (FTH or MSL) M.S.L.			
3. DRILLING AGENCY W. G. JAKES Co.				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-25/1				13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER DAVID HARPER				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER —		16. DATE HOLE STARTED 11-21-88 COMPLETED 11-22-88	
7. THICKNESS OF OVERBURDEN 0.0 (496.7)				17. ELEVATION TOP OF HOLE 496.7			
8. DEPTH DRILLED INTO ROCK 35.7				18. TOTAL CORE RECOVERY FOR BORING %			
9. TOTAL DEPTH OF HOLE 35.7 (461.0)				19. SIGNATURE OF INSPECTOR David Harper			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.7	0.0		SANDSTONE - Sly, f.-m. q, m.h., m. gr. w/ occ. dk. mic. lam.  pts. along mic. lam. @ 496.5, 496.2, 495.9, 495.4, 495.0, & 493.8		Box	PULL-1 START - 1200 END - 1212 TIME - 12 min Drl. - 12 min RAN - 4.6 REC - 4.6 LOSS - 0.0 UNACC. 0.0	
	1				1.		
	2						
	3						
	4				3.8		
	5					7. DEP & DEP 4.6	
	6				2.	PULL-2 START - 1225 END - 1232 TIME - 7 min Drl. - 7 min RAN - 2.9 REC - 2.7 LOSS - 0.2 UNACC. - 0.0	
	7						
489.4	7.3		0.1 s. gr. cl. @ Contact		7.3	7.3 T. DEP	
	8		INDURATED CLAY, S, Slk, gr. r. br.  0.8 L.C. (Accum.) btwn 489.4 - 486.5			DEP 7.5	
	9				3.	PULL-3 START 1245 END - 1300 TIME - 15 min Drl. - 15 min RAN - 2.9 REC - 2.1 LOSS - 0.8 UNACC. - 0.8	
	10						

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PROJECT GALLIPOLIS Locks & DAM HOLE NO. R-25/1





DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.7		Hole No. R-25/1		
PROJECT GALLIPOLIS Locks & DAM		INSTALLATION OR4-CD		SHEET 3 OF 4 SHEETS		
ELEVATION a 474.7	DEPTH b 22.0	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.8	22.4		SS (cont.) grading SANDSTONE - F. m. q. m. h. bkn. (mech.) 473.8 - 473.4		6 22.4	22.5 T. DEP. 22.9 EST. DEP. 23.2
	23					
	24		- CLS. 10m. @ 472.6 - 472.5 w/ gr. cl. con.		7.	PULL - 9 START - 0759 END - 0807 TIME - 8 min. Drl. - 8 min. RAN - 4.9 REC. - 4.4 LOSS - 0.5 UNAC - 2.0
	25					
	26				25.7	
	27		bkn. (mech.) 469.4 - 469.1		8.	24.9 T. DEP. 27.3 EST
	28		occ. phg. along w/c. low			DEP - 28.1 Using 10' bbl. PULL - 10 START - 0828 END - 0846 TIME - 18 min Drl. - 18 min RAN - 9.4 REC - 9.8 GAIN - 0.4 UNAC - 0.0
	29				29.4	
	30					
	31				9.	
	32					
	33				33.2	
	34				10	

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-343

PROJECT GALLIPOLIS Locks & DAM HOLE NO R-25/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.7		Hole No. R-25/1	
PROJECT GALLIAPOLIS Locks & DAM		INSTALLATION ORH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a 462.7	DEPTH b 34.0	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f
			REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g		
			SS (cont.)		Box
	35				10.
					35.7
	36		REQUIRED DEPTH.		36.0 T.DEP.
	37				32.1 EST.
	38				(overdrilled) DEP 37.5

ENG FORM 1836-A  
JUN 67

GPO 1949 OF-328-243

PROJECT  
GALLIAPOLIS Locks & DAM

HOLE NO.  
R-25/1

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 4 SHEETS		
1. PROJECT GALLIPOLIS LOCK DAM		ORD	ORH-CD	10. SIZE AND TYPE OF BIT 4X5 1/2"		
2. LOCATION (Coordinates or Station) MDND R-25 1STA				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.		
3. DRILLING AGENCY W. G. JACQUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE		
4. HOLE NO. (As shown on drawing title and file number) R-25 1/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A	UNDISTURBED N/A	
5. NAME OF DRILLER A. TICE				14. TOTAL NUMBER CORE BOXES 10		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		
7. THICKNESS OF OVERBURDEN 0.0 497.1				16. DATE HOLE STARTED 11-22-88 COMPLETED 11/22/88		
8. DEPTH DRILLED INTO ROCK 36.1				17. ELEVATION TOP OF HOLE 497.1		
9. TOTAL DEPTH OF HOLE 461.0				18. TOTAL CORE RECOVERY FOR BORING 36.1 %		
		19. SIGNATURE OF INSPECTOR DAVID NUGEN JMD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	0.0		SANDSTONE - sly, m.g., m.h., mc., m.gr. w/occ. sly. lam. Sta. 496.8-496.7 0.3 L.C. (mech.) 497.1-496.8 m. spaced ptgs. along sly. lam.		BOX 1.	PULL-1 START- 0917 END - 0927 Time - 10 min Drl. - 10 min RAN - 4.6 REC - 4.3 LOSS - 0.3 UNAC - 0.3
	1					
	2					
	3					
	4				3.9	
	5					T.DEP. & DEP 4.6
	6				2.	PULL-2 START- 0937 End - 0943 Time - 6 min Drl. - 6 min RAN - 3.6 REC - 3.6 LOSS - 0.0 UNAC - 0.0
	7					
	8				7.5	7.7 T.DEP
489.0	8		S. gr. cl. 489.0-488.9 INDURATED CLAY - S. f. br./gr., s.lk. bkn., s. throughout		3.	DEP. 8.2 PULL-3 START 1027 END 1033 Time 6 min Drl 6 min RAN 2.0 REC 2.0 LOSS 0.0 UNAC 0.0
	9					
	10					T.DEP 10.0

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PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-25 1/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.1	Hole No. R-25 1/2		
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION ORH-CD	SHEET 2 OF 4 SHEETS		
ELEVATION a 487.1	DEPTH b 10.0	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			ICL (cont.)		Box 3	DEP. 10.2 PULL-4 START- 1053 End - 1101 Time - 8 min Drl. - 8 min RAN - 2.0 REC - 2.0 Loss - 0.0 UNACC. 0.0
	11				10.6	11.7 T. DEP
	12					DEP. 12.2
484.5	12.6		- 0.2' L.C. @ 484.7-484.6		4	PULL-5 START- 1115 End - 1124 Time - 9 min Drl. - 9 min RAN - 2.8 REC - 2.7 Loss - 0.1 UNACC. 0.1
	13		CLAYSTONE, Sly., gr., S.-m.h.			
	14				14.7	
	15		hor. ptg. (mech.) @ 481.8			DEP. 15.0
	16		hor. ptg. (mech.) @ 480.5		5	PULL-6 START- 1134 End - 1141 Time - 7 min Drl. - 7 min RAN - 2.4 REC - 2.4 Loss - 0.0 UNACC. 0.0
479.9	17.2		grading			17.3
	18		SILTSTONE, sa., gr., m.h. occ. shy.; w/occ. ss. len. 0.3' L.C. (mech.) prob. @ start of run mech. ptg. @ 479.0 mech. ptg. @ 478.6			DEP. 17.4 PULL-7 START- 1225 End - 1236 Time - 11 min Drl. - 11 min RAN - 5.0 REC - 4.1 Loss 0.9 UNACC. 0.3
	19					
477.7	19.4		grading			
	20		SANDSTONE - Sly., f.g., m.h., gr., mc. m. spaced shy. phys. throughout.		6	
	21					
	22				21.5	21.7 T. DEP

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-325-243

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO  
R-25/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6ALLIPOLIS LOCK DAM		ORH-CD		3 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.1	22.0		SS (cont.)			
	23				7	DEP. 22.4 PULL-8 START- 1251 End - 1301 Time - 10 min Drl. - 10 min Ran - 4.0 REC - 4.1 Gain - 0.1 UNACC - 0.0
	24					
	25				25.2	
	26					25.8 T. DEP.
	27				8	DEP. 26.4 PULL-9 START- 1315 End - 1323 Time - 8 min Drl. - 8 min Ran - 4.9 REC - 5.0 Gain - 0.1 UNACC - 0.0
	28					
	29				28.7	
	30					29.3 T. DEP.
	31				9	
	32				32.2	DEP. 31.3 PULL-10 START- 1347 End - 1402 Time - 15 min Drl. - 15 min Ran - 6.2 REC - 5.2 Loss - 1.0 UNACC - 0.0
	33				10	
	34					

ENG FORM 1836-A  
JUN 67

GPO 1969 O7-329-243

PROJECT  
6ALLIPOLIS LOCK DAM

HOLE NO.  
R-25/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.1		Hole No. R-25 1/2		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK DAM		ORH-CD		4 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SS (Grit.)		10,	
463.1	34		BOTTOM OF HOLE REQUIRED DEPTH			36.0 T. DEP.
	37					1.0' core left in Hole (overdrilled) DEP. 37.0

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-325-243

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO

R-25 1/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 4 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS Locks & DAM		10. SIZE AND TYPE OF BIT 4" X 5 1/2"		11. DATUM FOR ELEVATION SHOWN (TBM or BML)	
3. DRILLING AGENCY		MONOLITH R-26		12. MANUFACTURER'S DESIGNATION OF DRILL		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W.G. JACQUES		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER		DAVID HARPER		14. TOTAL NUMBER CORE BOXES		10	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER			
7. THICKNESS OF OVERBURDEN		0.0 (496.9)		16. DATE HOLE		STARTED 11/22/88 COMPLETED 11/23/88	
8. DEPTH DRILLED INTO ROCK		35.9		17. ELEVATION TOP OF HOLE		496.9	
9. TOTAL DEPTH OF HOLE		(466.0)		18. TOTAL CORE RECOVERY FOR BORING		35.7 %	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SANDSTONE Light GRAY, M.H. med to FINE GRAINED, micaceous		Box	PULL #1 START 2:58 RAN 0.7 END 3:08 REC 0.7 TIME 10min LOSS 0 DRL 10min UNACC 0 T.DEP + DEP 1.7	
	2		MECH BROKEN 496.4 - 496.2		1	PULL #2 START 8:05 END 8:15 TIME 10min DRL 10min RAN 5.0 REC 5.0 LOSS 0 UNACC 0	
494.5	3		SANDSTONE M.H, G.G OCC - X-Bedding NON MICACEOUS.		3.5		
	4				Z		
	5					T.DEP + DEP 5.7	
	6					PULL #3 START 8:33 RAN 1.6 END 8:37 REC 1.5 TIME 4min LOSS 0 DRL 4min UNACC 0	
489.9	7		INDURATED CLAY S., Light GRAY to reddish BROWN, CCC broken GRAY above 488.9 - Reddish BROWN below. OCC GRAY SH GREEN CLAYSTONE NODULES		6.9	7 T.DEP UNACC 0 DEP 7.3	
	8				3	PULL #4 START 8:47 REC 2.9 END 8:56 LOSS 1.2 TIME 9min UNACC 0.0 DRL 9min RAN 2.7	
	9					9.2 T.DEP	
	10				10.	DEP 10.0	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
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PROJECT GALLIPOLIS Lock & Dam HOLE NO. R 2611



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.9	Hole No. R-26/1		
PROJECT GALLIPOLIS LOCK & DAM		INSTALLATION DRH-CP		SHEET 2 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11		INDURATED CLAY LIGHT GRAY TO REDDISH BROWN, SOFT, OCC BAKEN		Box	PULL #5 START 9:27 END 9:34 TIME 7min DRL 7min RAN 1.2 REC 1.1 LOSS .1 UNACL 0.0 DGP 11.2
484.4	12				4	PULL #6 START 10:19 END 10:24 TIME 5min DRL 5min RAN 3.9 REC 2.9 LOSS -1.0 UNACL .4
	13		SHALE GRAY TO GREENISH-GRAY SOFT, CLAYEY		13.7	
	14					T.DEP 14.3
	15					DEP 15.1
	16				5	PULL #7 START 10:36 END 10:51 TIME 15min DRL 15min RAN 3.9 REC 4.9 LOSS 70.4 UNACL 0.0
	17				17.1	
	18					T.DEP 18.5
477.8	19					DEPT 19.0
	20		SILTSTONE GRAY, ST to m.H. m to F.g. SHALEY GRADING TO SANDSTONE with depth.		6	PULL #8 START 12:05 END 12:16 TIME 11min DRL 11min RAN 3.8 REC 3.6 LOSS -0.2 UNACL 0.2
476.1	21		SHALE SANDSTONE GRAY m.H., m to Fg micaceous, fine bedded		20.8	
	22				7	

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO  
R-26/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS		496.9		R-26/1		
		DRHCD		SHEET 3 OF 4 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
474.9						
474.8			SANDSTONE		Box	PULL #8
474.5			SHALE GREENSPAY M.H. Fg.			
	23					PULL #9
					7.	START 12:33
						END 12:43
						Time 10 min
						DRL 10 min
	24				24.4	RAN 4.9
						REC 4.8
						LOSS -0.1
	25					UNAC 0.6
	26				8.	Dept 25.7
	27					
						Dept 27.7
	28				28.0	PULL #10
						START 1:04
						END 1:23
						Time 19 min
	29					DRL 19 min
						RAN 9.8
						REC 9.5
	30					LOSS .3
						UNAC 0.0
	31				9	
	32				31.9	
	33				10.	
	34					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-323-243

PROJECT GALLIPOLIS Lock & DAM  
HOLE NO R-26/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.9		Hole No. R2611	
PROJECT			INSTALLATION OEH-CD		SHEET OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.9			SANDSTONE GRAY mH Fg to 11g MICACEOUS, FINE BD PLANS		Box 10	PULL #10  T. Depth 34.8
461.2	35		Bottom Hole		35.7	Box to 35.7
	36					
	37					Box 37.5
	38					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-328-243

PROJECT

Gallipolis Lock & Dam

HOLE NO

R2611

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF SHEETS		
1. PROJECT <i>Gallipolis Lock &amp; Dam</i>		<i>OR2</i>	<i>OR4-CD</i>			
2. LOCATION (Coordinates or Station) <i>MONO 14+80.0 "B"</i>			10. SIZE AND TYPE OF BIT <i>M. S. L.</i>	11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		
3. DRILLING AGENCY <i>W. G. JACOBS</i>			12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-57 mobile</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>R-26/2</i>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <i>N/A</i>	DISTURBED <i>N/A</i>	UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>DAVE HARPER</i>			14. TOTAL NUMBER CORE BOXES <i>10</i>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <i>N/A</i>			
7. THICKNESS OF OVERBURDEN <i>0-494.4</i>			16. DATE HOLE <i>11-30-88</i>	STARTED <i>11-30-88</i>	COMPLETED <i>11-30-88</i>	
8. DEPTH DRILLED INTO ROCK <i>33.7</i>			17. ELEVATION TOP OF HOLE <i>494.4</i>			
9. TOTAL DEPTH OF HOLE <i>461</i>			18. TOTAL CORE RECOVERY FOR BORING <i>33.7</i>	19. SIGNATURE OF INSPECTOR <i>JET</i>		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1		SS lg. md., m.fg., acc mic.			Pull #1 START 7:51 Ran .05 End 8:04 Rec .05 Time 13 LOSS 0 Drl 13 UNACC 0 TI Depth 0.5 TP Depth 0.5
	2				1	Pull #2 START 8:13 Ran 0.4 End 8:32 Rec 0.4 Time 19 LOSS 0 Drl 19 UNACC 0 Ran 3.45.5 Rec 3.1 TI Depth 4.0 TP Depth 4.1
494.5	3		ICL. sy mech. bk @ 494.7 to 499.2	3.7		
	4					
	5				2	Pull #3 START 8:50 Ran 2.4 End 9:06 Rec 2.4 Time 16 LOSS 0 Drl 16 UNACC 0 Ran 2.1 TI Depth 6.2 TP Depth 6.3
487.6	6			6.6		
486.6	7		CLS sfr @ 492.8 to 492.5			
	8					
	9		ICL. r. br., s. ves. occ. mot. w/gr. gr. gr. cl., occ gr cl/s frags		3	Pull #4 START 9:40 Ran 0 End 9:55 Rec 0 Time 15 UNACC 0 Drl 15 Ran 2.2 Rec 2.3 TI Depth 8.5 TP Depth 8.6
	10		SLs 14. gr. cls. @ 491.5 to 490.7 Sevr. mech. bk @ 490.2 to 489.7, 488.6	10.1		Pull #5 START 10:07 Ran 1.1 End 10:19 Rec 1.0 Time 12 LOSS 0 Drl 12 UNACC 0 TI Depth 9.6 TP Depth 10.0
	11		CLS. gr. s sh.			
	12				4	Pull #6 START 10:35 Ran 0.8 End 10:42 Rec 0.7 Time 7 LOSS 0 Drl 7 UNACC 0 TI Depth 10.4 TP Depth 10.7
	13			13.5		Pull #7 START 10:54 Ran 0.2 End 11:04 Rec 0.2 Time 10 UNACC 0 Drl 10 Ran 3.4 Rec 3.7 TI Depth 13.2 TP Depth 13.2
	14					
	15				5	Pull #8 START 11:25 Ran 0 End 11:31 Rec 0 Time 6 UNACC 0 Drl 6 Ran 0.8 Rec 0.8 TI Depth 14.6 TP Depth 14.6
	16					
	17			17.0		Pull #9 START 12:41 Ran 0.4 End 12:59 Rec 0.4 Time 18 UNACC 0 Drl 18 Ran 4.2 Rec 3.8 Loss 0.4 TI Depth 18.8 TP Depth 19.3
	18				6	
	19					
	20					

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PROJECT *Gallipolis Lock & Dam* HOLE NO. *R-26/2*

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 494.7	Hole No. R 26/2		
PROJECT Gallipolis Lock & Dam			INSTALLATION RRH - CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				20.8	Pull 10 START 1.19 End 1.25 Time 16 Dr 16 Rat 25.0 Rec 4.9 Loss 5.0 Unacc 0
472.3	22					
	23		SLS gr. to qn. gr. S. to m. hd sk@ top grading S. Sev mach. bkn: 479.7 = 480.1 475.9, 475.7 484.5, 484.9		7	TI Depth 23.8
	24		mach spin; 485.4, 485.7, 485.3, hi ang mach frag; 486.5 to 486.1, 475.2		24.3	TP Depth 24.2
	25					Pull # 11 START 1.56 End 2.16 Time 20 Dr 20 Rat 18.0 Rec 9.8 Loss 0.2 Unacc 0.2
	26		sk@ 483.6 bkn 480, 482.6 sh. 479.0 # 48.9		8	
	27		SS gr. li gr m. hd and S. q, acc nio grad C w/ depth occ x bdd.		27.8	
	28		bkn 471.6			
	29		mach spin loss 461.6 = 461.9		9	
	30					
	31				31.4	
	32				10	
	33					
461			Bottom Hole		33.8	TI Depth 33.8 TP Depth 34.1

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R 26-2

DRILLING LOG		DIVISION	INSTALLATION	SHEET / OF SHEETS		
1. PROJECT <i>Gallipolis Lock &amp; Dam</i>		<i>ORD</i>	<i>ORH-CD</i>			
2. LOCATION (Coordinates or Station) <i>mono R 27 Sta 14+70 "B"</i>			10. SIZE AND TYPE OF BIT <i>.MSL.</i>	11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY <i>W. G. Jagers</i>			12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53 mobile</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>R-27-1</i>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <i>N/A</i>	DISTURBED <i>N/A</i>	UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>DAVE HARPER</i>			14. TOTAL NUMBER CORE BOXES <i>8</i>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <i>n/a</i>			
7. THICKNESS OF OVERBURDEN <i>0 499.5</i>			16. DATE HOLE STARTED <i>12-1-88</i>	COMPLETED <i>12-1-88</i>		
8. DEPTH DRILLED INTO ROCK <i>34.1</i>			17. ELEVATION TOP OF HOLE <i>494.5</i>			
9. TOTAL DEPTH OF HOLE <i>460.1</i>			18. TOTAL CORE RECOVERY FOR BORING <i>34.1</i>	%		
			19. SIGNATURE OF INSPECTOR <i>JET</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
494.0			SLS			Pull #1
	1		SH g.s. CL bkn w/loss 0.1 loss		1	START 7:25 End 7:49 Time 24 Dri 24 Ran 4.3* Rec 4.2 Loss 0.1 Unacc 0.1
	2					
	3					
	4				3.5	
490.2						TL Depth 4.3 TP Depth 4.5
	5		ICL r. br's to ves. occ mat. w/g to gr. g. cl, occ gr. g. cls frag. 11 g. fatty CL @ 490.2-490.0		2	Pull #2 START 8:04 End 8:28 Time 24 Dri 24 Ran 2.9 Rec 3.8* Loss 4.1 Unacc 2.2
	6		sev. br (poss mach) 489.4-489.0 poss loss-spin loss @ 486.9 & 486.7. poss.			
	7					
486.4					8.1	TL Depth 8.1
	8					TP Depth 8.6
	9		SLS g.s. to mod. h. gradational w/sh. toward top, & Sa & bottom		3	Pull #3 START 8:58 End 9:13 Time 15 Dri 15 Ran 4.2 Rec 4.0 Loss 4.2 Unacc 0
	10					
	11		Clay scums 484.0, 485.2 SS			
	12				12.1	TL Depth 12.3
	13					TP Depth 12.8
	14				4	Pull #4 START 9:33 End 9:44 Time 11 Dri 11 Ran 3.2* Rec 3.9* Loss 4.0 Unacc 0
	15				15.1	
	16					TL Depth 16.3
	17				5	TP Depth 16.7
	18					Pull #5 START 10:00 End 10:10 Time 10 Dri 10 Ran 4.4 Rec 5.0 Loss 4.9 Unacc 0
	19				18.6	
					6	TL Depth 19.9

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PROJECT *Gallipolis Lock & Dam* HOLE NO. *R-27-1*

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
Gallipolis Lock & Dam		ORH-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
473.0	21				6	TP Depth 21.7
	22		SS gr to lt gr. med h med to f. g, occ mic. gradational C with depth		22.3	Pull #6 START 10:24 End 11:04 Time .38 Dr 1 2.1 Ran 4.8 Rec 4.8 Loss 0 Unacc 0
	23					
	24				7	
	25					
	26				26.0	TP Depth 26.0
	27					Pull #7 START 11:25 End 11:37 Time 12 Dr 1 12 Ran 4.0 Rec 4.5 Loss 3.6 Unacc 0
	28				8	
	29				29.6	TP Depth 29.6
	30					Pull #8 START 12:31 End 12:46 Time 15 Dr 1 15 Ran 4.3 Rec 4.7 Loss 4.8 Unacc 0
	31				9	
	32					
	33				33.0	TP Depth 33.0
466.0					10	
460.1	34		Bottom H/E		34.1	TP Depth 34.7
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		4 X 5 1/2	
3. DRILLING AGENCY		MONE STA. 14+36 "B"		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B 33 Mobile	
5. NAME OF DRILLER		A. TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED / UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		N/A	
7. THICKNESS OF OVERBURDEN		0 - 490.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		29.9		16. DATE HOLE		STARTED 12-1-88 COMPLETED 12-2-88	
9. TOTAL DEPTH OF HOLE		461.0		17. ELEVATION TOP OF HOLE		490.9	
				18. TOTAL CORE RECOVERY FOR BORING		29.9	
				19. SIGNATURE OF INSPECTOR		JET	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
490	1		SS			Pull #1	
	2		SS r. gr. med hd., med to f.		1	START 2:38 END 2:51 TIME 13 DR 13 RAN 1.9 REC 1.5 LOSS 0.3 UNACC 0.3	
	3				3.0	TP Depth 1.9	
487.9	4		ICL. r. br., s to ve s, occ med. w/gr & gn CL.		2	Pull #2	
	5		occ gn gr CLS frags. 11.			START 7:42 END 8:02 TIME 20 DR 20 RAN 1.1 REC 1.1 LOSS 0.0 UNACC 0.0	
	6		gn @ 487.4 to 487.1			TP Depth 4.1	
	7		sev bkn 489.8 to 489.4			Pull #3	
	8		w/ poss loss 0.3, 489.0 to 487.4		6.3	START 8:23 END 8:48 TIME 22 DR 22 RAN 2.7 REC 2.6 LOSS 0.1 UNACC 0.1	
	9					TP Depth 5.7	
	10		SLS gr. to gn gr., s to med hd., gradation w/sh. @ top to sa @ bottom, occ SIK.		3	Pull #4	
	11		sev bkn: 487.4 to 485.2			START 9:08 END 9:32 TIME 24 DR 24 RAN 3.4 REC 3.5 LOSS 0 UNACC 0	
	12		poss. mech. H. bkn. sh.,		9.8	TP Depth 9.5	
	13		scum w/ SIK @ 482.2			Pull #5	
	14		sa blow. 479.6		4	START 9:49 END 10:00 TIME 19 DR 19 RAN 3.5 REC 3.4 LOSS UNACC	
	15		11. bkn @ 480.5		13.1	TP Depth 13.0	
	16				5	Pull #6	
	17					START 10:26 END 10:34 TIME 8 DR 8 RAN 3.8 REC 3.1 LOSS 0.0 UNACC 0.0	
	18				16.5	TP Depth 15.7	
473.9	19				6	Pull #7	
	20					START 10:51 END 11:02 TIME 11 DR 11 RAN 5.2 REC 4.9 LOSS 0.6 UNACC 0	

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PROJECT Gallipolis Lock & Dam HOLE NO. R2712



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 490.9	Hole No. R 27/2		
PROJECT Gallipolis Lock & Dam			INSTALLATION DRH - CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				4	TD Depth 20.9
	22					
	23		SS gr. to lt gr., med hd., med. to fi g, occ mic, grad. c w/depth, occ x bdd - sev. mec. bkn 468.8 - 468.5		23.5	TD Depth 22.9 Pull # 8 START 11:18 End 11:30 Time 12 Dr-1 12 Ran #3.3 Rec 3.5 Loss 0 Unacc 0
	24					TD Depth 24.2
	25		1: mech. bkn @ 464.6		8	
	26					TD Depth 26.4 Pull # 9
	27				26.9	START 12:30 TD Depth 26.9 End 12:55 Time 5 Dr-1 5 Ran #0.8 Rec 1.1 Loss 0 Unacc 0
	28				9	
	29					Pull # 10 START 12:56 End 1:02 Time 12 Dr-1 12 Ran #4.5 Rec 4.3 TD Depth 30.6 Loss 0 Unacc 0
461	30		BOTTOM HOLE		30.6	
460.3						TD Depth 31.7
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					

DRILLING LOG		DIVISION		PROJECT		OF 4 SHEETS	
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or BSL)	
Gallipolis Lock & Dam		monolith R/75/sta 710A		4" x 5 1/2"			
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
W. G. Jaques Co.		R-75-1		M.S.L.		N/A	
5. NAME OF DRILLER		6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
Steve Fry		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEG. FROM VERT.		9		N/A	
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
0 - 497.2		33.4		STARTED 9-11-89		COMPLETED 9-11-89	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR			
463.6		33.4		DET			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	0		CLS/SLS inter bed: m. clk. gr., 5-m. hd.; v. bkn 0.8-2.7 w/0.8 L.C. (mech); S.CI. 3.2-3.7 overcoated 4.0-4.3; chsely spaced cl c02, hor. (shy) ptgs. 5.6-7.0 w/0.4 L.C. & 7.9 12.2!			Full #1	
	1					Start - 10:32	
	2					End - 10:44	
	3					Time - 12	
	4					Drl - 12	
	5					Ran - 4.0	
	6					Rec. 3.1	
	7					Loss. 0.9	
	8					Unacc 6	
	9					-	
	10					TI Depth 4.0	
	11					TP Depth 4.0	
	12					Full #2	
	13					Start 10:49	
	14					End 10:44	
	15					Time 12	
	16					Drl 12	
	17					Run. 4.0	
	18					REC 3.5	
	19					LOSS 0.9	
	20					Unacc 4	
	21					T Depth 7.9	
	22					Depth 8.0	
	23					Full #3	
	24					Start - 11:09	
	25					Stop 11:19	
	26					Time 10	
	27					Drl 10	

# DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE

497

Hole No.

R 75/1

PROJECT

Gallipolis Lock & Dam

INSTALLATION

RRD - CD

SHEET 2.

OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Ran - 5.3 Rec 5.2 Loss 0.9 UNACC 0
	11				3	
	12				11.6	
484.8						
	13		SLS. clay, m. dk. gr., s. m. h. hor. clay, ptg. @ 12.7; clay 12.7- 13.1; sh. ptgs. @ 13.4, 13.5, & 13.6		4	TR Depth 13.1 TI Depth 13.3
483.8						Pull #4
	14		SS., v. sly., f.g., m. h., m. gr.; hor. ptg. @ 14.3; over cored 14.3-14.5 grading			START 11.36 End 11.46 Time 10 DRI 10 RAN. 4.2 Rec- 3.7. LOSS. 0.6 UNACC
	15				15.1	
481.2						
	16					
	17					
	18				5	TR Depth 17.4 TI Depth 17.5
	19					Pull #5
	20					START 12.36 End 12.45 TIME 9 DRI 9 RAN 5.0 REC. 4.8 LOSS 5.1 UNACC 0
	21				19.2	
	22				6	

PROJECT		INSTALLATION		SHEET		
Gallipolis Lock & Dam		ORD - CD		3 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.9	22		cls/nc transition: s, m-dk. gr.-n.br., slk. ve. bkn w/slk. pins 22.3.-22.8 grading			TP Depth 22.3 TI Depth 22.5
	23				22.8	Pull #6 Start 12.56 End. 12.59 Time 3 Drl Ran. 2.4 Rec. 3.0 Loss - Unacc -
472.6	24				7	
	25		inc., s., n.bkn. bkn., slks			TP Depth 24.9
	26					TI Depth 25.3
	27				26.5	Pull #7 Start. 1.10 Excl 1.30 Time 20 Drl Ran. 4.5 Rec. 4.5 Loss - Unacc -
	28				8	
	29					TP Depth 29.4
	30					TI Depth 29.8
	31				30.2	Pull #8 Start. 1.40 End. 1.52 Time 12 Drl 12 Ran. 5.0 Rec. 3.6 Loss. - Unacc
	32				9	
	33					TP Depth 33.4
463.6					33.4	





DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.4		Hole No. R 75/2		
PROJECT Gallipolis Lock & Dam		INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull #3 START 8:41 END 8:46 TIME 5 DRI 5 RAN 2.5 REC 3.6 LOSS 1.1 UNREC 0
	11				11.3	TP Depth 12.4
	12					
	13				4	TP Depth 12.9 Pull #4 START 9:04 END 9:10 TIME 6 DRI 6 RAN 2.6 REC 2.7 LOSS 0 UNREC 0
	14					TP Depth 14.9 TI Depth 15.0
482.2	15					Pull #5
	16		ES. V. SLT. m.gr. o.k. 15.9-16.5		15.6	START 9:22 END 9:31 TIME 9 DRI 9 RAN 5.9 REC 5.2 LOSS 0 UNREC 0
480.9	17		CL. sh. inter-bed s. m.d.k. gr. SL. Low 18.8 - 19.8		5	
	18					
	19					
	20				19.4	TP Depth 20.1
	21				6	TP Depth 20.9 Pull START 9:51 END 9:57 TIME 7
	22					

DRILLING LOG (Cont Sheet)

447.4

Hole No. K 1512

PROJECT

Galipolis Lock & Dam

INSTALLATION

ORH-CD

SHEET 3  
OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					Pull #6 cont
477.4	23		CL/SL Trans s.gr-r br.		23.0	Dr. 7 RAN 2.6 REC 4.6 LOSS 0 UNDCC 0 TD Depth 23.5
	24					TD Depth 24.1
	25				7	Pull #7 START 10:06 End 10:13 Time 7 Dr. 7 RAN 4.3 REC 4.1 LOSS 0 UNDCC 0
471.8	26		ICL s r.br. slk		26.6	
	27					TD Depth 27.8
	28				8	
	29					TD Depth 28.7
	30				30.2	Pull #8 START - 10:24 End - 10:35 Time 14 Dr. 14 RAN 6.1 REC 4.7 LOSS 0 UNDCC 0
	31					
	32				9	
464.0	33		Bottom Hole			TD Depth 33.4
						TD Depth 33.9

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

Galipolis Lock & Dam

HOLE NO.

R75/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		ORD		ORH-CD		OF 3 SHEETS	
LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" X 5 1/2"	
MONO R-76		STA 7+55.1A"		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
DRILLING AGENCY		W. G. JACQUES		12. MANUFACTURER'S DESIGNATION OF DRILL		R 53 mobile	
HOLE NO. (As shown on drawing title and file number)		R-76/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
NAME OF DRILLER		Steve Frye		14. TOTAL NUMBER CORE BOXES		9	
DIRECTION OF HOLE		VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> DEG. FROM VERT.		15. ELEVATION GROUND WATER		0 - 497.2	
THICKNESS OF OVERBURDEN		0		16. DATE HOLE		STARTED 9-11-89 COMPLETED 9-12-89	
DEPTH DRILLED INTO ROCK		497.2		17. ELEVATION TOP OF HOLE		497.2	
TOTAL DEPTH OF HOLE		33.2		18. TOTAL CORE RECOVERY FOR BORING		33.2 %	
				19. SIGNATURE OF INSPECTOR		J.E.T.	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.2	1		CUSH S. M. dk. gr. bkn gr bkn cl. co2. w/occ clay. SLS. lens: SLS. 2.6-3.6		1	Pull #1 start- 2.08 End 2.20 Time 12 Drl 12 RAM 4.9 Rec 4.7 Loss 0 Unacc 0	
	2						
	3						
	4						
	5		SS. silty, m.h., mgr. w/ silty. lam. & incis		2	TP Depth 4.7 TI Depth 4.9	
497.2	6						
	7						
	8		CUSH, S., M. dk. gr. br w/ fr gr. cl. co2/ silty. 9.6-10.4: dry cl/ silty bdd. plus 11.2-13.4		3	Pull #2 START 2.25 END 2.36 TIME 11 DRL 11 RAM 5.0 REC 4.9 LOSS 0 UNACC 0	
497.8	9						
	10						
						TP Depth 9.6 TI Depth 9.9	

# DRILLING LOG (Cont Sheet)

4772

Hole No. K 7611

PROJECT		INSTALLATION		HOLE NO.		SHEET	
GALLIPOLIS Lock & Dam		ORH-CD		K 7611		2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	10		CL/sh			Pull #3	
	11				10.8	start 2:42 End 2:58 Time - 16 Dri 16 RAN 4.5 REC 4.6 LOSS 0 unacc 0	
	12						
	13				4		
483.5							
	14		SS. vs. sh. 1/2 m. h. m. - dk. gr. 1/2 c/s fld pts @ 16.2, -16.4, 16.7		14.2	TP Depth 14.2 TI Depth 14.4	
	15					Pull #4 Date. 9.12.83 START 7:30 End 7:41 Time 11 Dri 11 RAN 4.4 REC 4.3 LOSS 0.2 UNACC 0	
	16				5		
	17						
480.2							
	18		CLS/SLS. inter bdd. s, m. dk. gr., bkn 17.5 17.9 w/0.2 C.C., Closley spaced hor. pfgs. 18.1 grading more clayey w/depth		18.0	TP Depth 18.7 TI Depth 18.8	
	19					Pull #5	
	20					START 7:49 End 8:00 Time 11 Dri 11 RAN 5.1 REC 5.2 LOSS 0 UNACC 0	
	21				6		
	22				21.5		
			(Cont)				

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-343

PROJECT

HOLE NO

GALLIPOLIS Lock & Dam

K-7611

# DRILLING LOG (Cont Sheet)

ELEVATION 100' 0" 100'

497.2

Hole No. R-76/1

PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		CLS/SL5			
	23				7	
	24					7 1/2 TP Depth 23.9
	25				25.1	Pull # 6 START - 8:11 End - 8:19 Time - 8 Drl - 8 RAN 3.7 REC 3.8 LOSS 0 UNACC 0
471.2	26		CL., v.b.r., S, SIL.		8	
	27					
	28				28.7	Pull # 7 START - 8:24 End - 8:32 TIME 8 Drl 8 RAN. 5.0 REC 5.0 LOSS 0 UNACC 0
	29					
	30				9	TP Depth 30.6
	31					
	32				32.5	TP Depth 32.7
	33				10	Pull # 8 Start - 8:40 RAN — End - 8:47 REC 0.8 Time - 7 LOSS 0 Drl 7 UNACC 0
463.7			BOTTOM HOLE		33.5	TP Depth 33.5

DRILLING LOG		DIVISION		INSTRUMENT		OF 3 SHEETS	
1. PROJECT		ORD		DPH-CD			
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4" X 5/8"			
3. DRILLING AGENCY		MONO R-76 STA 7+91-A		11. DAY OF ELEVATION SHOWN (T.M. or M.L.)			
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		M. S. L.	
5. NAME OF DRILLER		R-76/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		STEVE FRYE		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		2 497.2		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.5		16. DATE HOLE		STARTED 9-14-89 COMPLETED 9-14-89	
9. TOTAL DEPTH OF HOLE		462.7		17. ELEVATION TOP OF HOLE		497.2	
				18. TOTAL CORE RECOVERY FOR BORING		34.5 %	
				19. SIGNATURE OF INSPECTOR		J E T	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.2	0		CLSH, s, m. dk. gr. w/huy cl. s.			Pull #1	
	1					START 11:02	
	2					END 11:10	
	3					TIME 8 min	
	4					DRL 8 min	
	5					PAN 5.2	
	6					REC 5.1	
	7					LOSS 0.1	
	8					UNAC 0.1	
493.6	4		SS, Sly, frg., m. b. m. gr.		3.7		
493.6			CLS., s, m. dk gr.				
493.2			SS, Sly, sig., m. b., m. gr				
492.7	5					DRL 5.2 TDRPS.1	
	6		CLS-S, m. dk. gr., okn. along hor. pl. w/huy gr. cl. Cos fhl 5.6-12.3 w/c. d. h. c. blwn 5.6 & 8.5: s/s lns 9.7-10.6		2	Pull #2	
	7					START 11:19	
	8					END 11:27	
	9					TIME 8 min	
	10					DRL 8 min	
						PAN 3.7	
						REC 3.3	
					7.8	LOSS 0.9	
						UNAC 0.9	
					3	DRL 8.9 TDRPS.2	
						Pull #3	
						(CONT)	

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET		
GALLIPOLIS Lock Dam			DRH-CD	2		
OF 3 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		CLS			PULL #3
						START 11:34
						END 11:46
	11				12.8	TIME 12 min
						DRL 12 min
						RAN 9.5
						REC 4.0
						LOSS 0
	12					UNAC 0
984.9						
			SLS, s., s m. hd., m. dk gr		4	
984.4						TIDP 12.8
	13		CLS, s m. - dk. gr.			
984						
						DCP 13.9
						PULL #4
	14					START 12:39
					14.2	END 12:46
						TIME 7 min
						DRL 7 min
982.2	15					RAN 5.1
			SLS/CLS, inter bdd., s - m. h.			REC 5.6
	1		m., dk., gr tr - hvy. gr			LOSS 0.2
			c/l. cos. along hor. bdd			UNAC 0.2
	16		p/hs ve bkn 16.0 - 18.0		5	
			w/0.2 LC			
	17					
	18				18.0	TIDP 18.0
						DCP 18.5
						PULL #5
	19					START 1:00
					6	END 1:10
						TIME 10 min
						DRL 10 min
	20					RAN 9.5
						REC 3.2
					20.5	LOSS 0
						UNAC 0
	21					TIDP 21.0
					7	

(CONT)

PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK DAM		ORH-LD		3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		Trans cls/sec. s, slt, gr-v-hr			PULL#5
	23				7	DCP 23.0
	24					PULL#6
472.9						START 1:19 END 1:25 TIME 6min DPL 6min RAN 2.9 REC 3.1 LOSS 0
	25		Icl. rbr., s, bkn, slt		25.6	UNACCL 0
	26					DCP 25.9
						PULL#7
	27				8	START 1:35 END 1:42 TIME 7min DPL 7min RAN 4.0 REC 5.2 LOSS 0
	28					UNACCL 0
	29				28.7	
	30					7/DCP 29.0
						DCP 29.5
	31				9	PULL#8
						START 1:59 END 2:10 TIME 11min DPL 11min RAN 4.6 REC 4.0 LOSS 0
	32					UNACCL 0
	33				32.5	
463.7			Bottom Note		10	
					33.5	7/DCP 33.5
						DCP 34.5

DRILLING LOG		ORD		ORH-CD		OF 3 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4X5 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MONO R-77 STA 7+101.4</b>				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACQUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-77/1</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>STEVE Frye</b>				14. TOTAL NUMBER CORE BOXES <b>9</b>		UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <b>DEG. FROM VERT.</b>				15. ELEVATION GROUND WATER <b>00 496.9</b>		16. DATE HOLE <b>STARTED 9-12-89 COMPLETED 9/12/89</b>	
7. THICKNESS OF OVERBURDEN <b>0 - 496.9</b>				17. ELEVATION TOP OF HOLE <b>496.9</b>		18. TOTAL CORE RECOVERY FOR BORING <b>32.9 %</b>	
8. DEPTH DRILLED INTO ROCK <b>32.9</b>				19. SIGNATURE OF INSPECTOR <b>JET</b>			
9. TOTAL DEPTH OF HOLE <b>46.4</b>							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		CLSH., s., m.-dk gr.; occ. silty, hvy. gr. cl. Coa in bkn & closely spaced hor. ptgs. 0.2-5.0 lam. 3.8-4.0 silty. 4.0-5.5 1/2 c.2. LC. blwn s. 5-8.4			Pull #1 START - 9.20 END 9.29 TIME 9 DRI 9 RAN 4.9 REC 4.5 LOSS 0 UNACC 0	
	2				1		
	3						
	4				3.7		
	5					TP Depth 4.5	
	6				2	TI Depth 4.9 Pull #2 START 9.36 END 9.45 TIME 9 DRI 9 RAN 3.7 REC 3.7 LOSS .02 UNACC 0	
	7						
	8				7.3		
	9				3	TP Depth 8.4 TI Depth 8.6	
487.7	10		SS, silty f.g., m. sh., m. gr.; bkn, silty, 9.8-10.2				
	11		(CONT)		(CONT)	(CONT)	

# DRILLING LOG (Cont Sheet)

496.9

Hole No. R/1111

PROJECT

Ballipolis Lock & Dam

INSTALLATION

ORH-CD

SHEET 2

OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.7	10					
	11		CLS/SLS inter bdd, s., m.h., m. dk. gr. ve bkn 10.2-11.2 #12-13.4: 0.4 LC 13.4-13.8		3	Pull #3 START - 9:52 End 10:00 Time 8 Dr/ 8 RAN 5.3 REC 5.0 LOSS 8 UNACC 8
	12				4	
	13					TD Depth 13.9
482.9	14					TI Depth 13.9
	15		SS. sly. f.g., m.h., m.gr. hor. ptg. w/tr. gr. CL Cud @ 14.4: 1m, o., sli. slk. T. 14.5 - 15.1 grading into SLS. w/depth		14.4	Pull #4 START - 10:12 End - 10:23 Time 11 Dr/ 11 RAN 7.00 REC 2.3 LOSS 8 UNACC 0
480.8	16					TD Depth 16.1
	17		SLS. sly. sa. to 18.0; m. gr. m. hd. occ closely spaced hor. ply w/tr. cl. cud. grading w/depth		5	
	18				18.0	TI Depth 20.9?
	19				6	Pull #5 START 10:30 End 10:40 Time 10 Dr/ 10 RAN 0.1 REC 4.1 LOSS 8 UNACC 8 TI Depth 20.2
475.9	21					TI Depth 21.0
	22		CLS. S. m. dk. gr. closely spaced hor. ply		21.7	
					7	

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-228-243

PROJECT

Ballipolis Lock & Dam R-77/2

HOLE NO.



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.9		Hole No. R77/1	
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION ORH-CD		SHEET 3 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
494.1	22		CLS		7	Pull # 6 Start 10:48 End 11:00 Time 12 Dri 12 RAN 3.9 REC 4.7 LOSS 0 UNACC 0
	23		Trans CLS/JCL			
	24					
471.9	25		JCL., rbr., bkm, slk, S		25.3	Pull # 7 Start 11:13 End 11:25 Time 12 Dri 12 RAN 3.3 REC 4.7 LOSS 0 UNACC 0
	26					
	27				8	
	28					T.D. Depth 28.2 For Pull 8
	29				29.1	
	30					T.D. Depth 29.4 Pull # 8 Start 12:20 End 12:34 Time 14 Dri 14 RAN 5.7 REC 3.3 LOSS 0 UNACC 0
	31				9	
	32					
464.0	33		Bottom HOLE		32.9	T.D. Depth 32.9
					33.9	T.D. Depth 33.9

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-LD		OF 4 SHEETS	
2. LOCATION (Coordinate or Station)		6ALLI POLIS LOCK DAM		10. SIZE AND TYPE OF BIT 4" X 5 1/2"			
3. DRILLING AGENCY		MOND - R-77 STA 16+10.12		11. DAY FOR ELEVATION SHOWN (TBM or BRL)			
4. HOLE NO. (As shown on drawing title and file number)		R 77/2		12. MANUFACTURER'S DESIGNATION OF DRILL		M.S.L.	
5. NAME OF DRILLER		STEVE FRYE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 497.7		15. ELEVATION GROUND WATER		00 - 496.7	
8. DEPTH DRILLED INTO ROCK		35.9		16. DATE HOLE		STARTED 9-14-89 COMPLETED 9-15-89	
9. TOTAL DEPTH OF HOLE		461.8		17. ELEVATION TOP OF HOLE		0 497.7	
				18. TOTAL CORE RECOVERY FOR BORING		34.2 %	
				19. SIGNATURE OF INSPECTOR		JFT	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.7	0		CLS - S. dk. gr., shy., occ. shy. ves. 0.0 - 4.5: 0.2' ss incl. @ 2.0 - 2.2. ve. s. 2.8 - 4.5 w/o. 4 LC. ve. bk. 11 w/hvy. gr. CL. COA. 4.9 - 7.7 s., 7.7 - 9.7: shy., s. 9.7 - w/s., m. gr. CL. COA. / fld. SLS len. @ 12.2 - 12.6 1/2 13.5 - 13.7. sly ss len 14.3 - 14.6 sh. sly 15.9 - 17.1 w/mry. dr. gr. fld. @ 16.3 & 16.5, 16.7 & 16.9 - 17.0 ve. bk. 11, s w/cl. COA. 17.1 - 18.7 bk. 11 sly, 18.7 - 19.5 ves., bk. 11 20.5 - 21.7 sly. 21.7 - 22.5: ve. bk. 11 22.5 - 26.9		1	Pull #1 START 2.26 End 2.33 TIME 7 DRI 7 RAN 4.9 REC 4.1 LOSS .04 UNACC 0	
	3.7					TIDepth 4.5 TPDepth 4.9	
	7.7				2	Pull #2 START 2.51 End 3.00 TIME 9 DRI 9 RAN 5.0 REC 5.2 LOSS 0 UNACC 0	
	9.9				3	TIDepth 9.7 TPDepth 9.9	
	10		(CONT)		(CONT)		

# DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE

497.7

Hole No. R-77/2

PROJECT

GALLI'POLIS LOCK & DAM

INSTALLATION

ORH-CD

SHEET 2

OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		cont. CLS-			Pull #3 START 7.35 End 7.45 TIME 10 Drl 10 RAN 2.9 REC 3.3 LOSS 0 UNQCC 0
	11				11.1	
	12					
	13				4	TI Depth 12.8? TP Depth 13.0
	14					Pull #4 START 7.56 End 8.05 TIME 9 Drl 9 RAN 3.1 REC 5.1 LOSS 0 UNQCC 0
	15				14.7	
	16				5	TI Depth 15.9?
	17					
	18				18.1	TP Depth 18.1
	19					Pull #5 START 8.17 End 8.33 TIME 16 Drl 16 RAN 5.9? REC 3.6 LOSS 0 UNQCC 0
	20				6	
	21				21.7	
	22		(CONT)		7	TI Depth 21.7 TP Depth 21.8
					(CONT)	

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 2-77/2		
PROJECT		INSTALLATION		SHEET		
6AKLIPOLIS ROCK DAM		ORH-CD		4 OF 8 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22					Pull #6
						START 8:50
						End 8:59
	23					TIME 9
						Drl 9
					7	RAN 4.3
						REC 5.2
	24					LOSS 0
						UNACC 0
	25					
					25.5	
	26					TI Depth 26.1?
						TP Depth 26.9
						Pull #7
	27					START 9:10
						End 9:17
						TIME 7
					8	Drl 7
						RAN 6.0?
	28					REC 5.2
						LOSS 0
						UNACC 0
	29					
					28.9	
	30					
					9	
	31					
	32					TI Depth 32.1
					32.1	TP Depth 32.4
						Pull #8
						START 9:24
						End 9:30
	33					TIME 6
					10	Drl 6
						RAN 3.5
						REC 2.1
						LOSS 0
	34					UNACC 0

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-242

PROJECT  
6AKLIPOLIS ROCK DAM

HOLE NO  
2-77/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK DAM		ORH-CD		4		
OF 4 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
462.5	34		ICL, S, r. br. SIL, bkn			
	35					TI Depth 34.2
						TP Depth 35.9

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

R-77/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET /	
		ORD		ORH-CD		OF 3 SHEETS	
1. PROJECT <b>GALLI POLIS LOCK &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4" X 5 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MOND R-78 STA 8+47.9</b>				11. DATUM FOR ELEVATION SHOWN (TBM or BM) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W.G. JACQUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-78/1</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>STEVE ERYE</b>				14. TOTAL NUMBER CORE BOXES <b>9</b>		UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <b>DES. FROM VERT.</b>				15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE STARTED <b>9-12-88</b> COMPLETED <b>9-13-88</b>	
7. THICKNESS OF OVERBURDEN <b>00 (496.7)</b>				17. ELEVATION TOP OF HOLE <b>496.7</b>			
8. DEPTH DRILLED INTO ROCK <b>4</b>				18. TOTAL CORE RECOVERY FOR BORING <b>32.6</b>			
9. TOTAL DEPTH OF HOLE <b>32.6</b>				19. SIGNATURE OF INSPECTOR <b>ET</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SLS/CLS - inter bdd., s., m.-dk. gr. ool. sh., bkn. throughout w/cl. CO <sub>2</sub> & s.c. zos. (max. CORE 0.2) overcoring 9.3-10.0' CLS. 10.0-13.0. SLS - 13.0-13.3' ve. s. 13.3- 13.8 w/ 0.4 L.C. (Prob mech)			Pull # 1 START 1.31 End 1:44 Time 13 Drl 13 RAN 5.0 REC 4.1 LOSS UNACC
	1					
	2					
	3					
	4				3.8	TI Depth 4.1
	5					TP Depth 5.0
	6				2	Pull # 2 START 1.55 End 2.10 Time 15 Drl 15 RAN 4.9 REC 5.2 LOSS UNACC over Drl.
	7					
	8				7.5	TI Depth 9.3
	9				3	TP Depth 9.9
	10					

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET	OF	
6 ALLI POLIS LOCK DAM			496.7	2	3	
			ORH-CD	SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10				3	Pull #3
					10.8	START 2.20 END 2.25 TIME 5 DRI 5 RAN 4.0 REC 4.1 LOSS 0.4 UNACC
	11					
	12					
	13				4	
482.9						TI Depth 13.8 TP Depth 13.9
482.5	14		SLS, clay sm. m. dk. gr.; hor. conta			Pull #4
			SS, v. sly, v. f. g. m. h. m. gr. w/occ thin dk. gr. sly. lam. & incl. grading w/depth		14.6	START 2.40 END 3.00 TIME 20 DRI 20 RAN 5.0 REC 3.8 LOSS 0.5 UNACC
	15					
481.1						
	16		CLS, sly, m. dk. gr. s. w/s gr. cl coe & fld. bdd. plns. b. furn 16.2 & 18.1 w/0.5' LC		5	
	17					
478.6	18				18.1	TI Depth 18.9
			SS, m. g. m. h. -hd, mic. (Spun Contact)			
477.8						TP Depth 18.1
	19		CLS, s., m. dk. gr., w/occ sly lens sly. w/dk. gr. coe & fld. bdd plns.		6	Pull #5
	20					START 7:35 END 7:41 TIME 6 DRI 6 RAN 3.7 REC 4.4 LOSS UNACC
	21					
	22				21.9	

# DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE

496.7

Hole No. R78/1

PROJECT

GALLIPOLIS LOCK DAM

INSTALLATION

ORH-CD

SHEET 3

OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.4	22		CLS/ICL, s, dk gr. r. br., slk TRANS, zone			TI Depth 22.5 TP Depth 22.6 Pull # 6 START 8.00 End 8.11 TIME 11 Dri 11 Ran 4.9 REC 4.9 LOSS unacc
	23		ICL. s., r. br., slk, ve. b km		7	
	24					
	25				25.5	
	26					
	27				8	
	28					TI Depth 27.4? TP Depth 27.5 Pull # 7 START 8.14 End 8.20 TIME 6 Dri 6 Ran 5.2 REC 5.2 LOSS unacc
	29				29.1	
	30					
	31				9	
	32					
464.1			Bottom HOLE		32.6	TI Depth 32.6 TP Depth 32.7

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO

R-78/1



<b>DRILLING LOG</b>		<b>DIVISION</b> OPD	<b>INSTALLATION</b> ORH-LD	<b>SHEET 11</b> OF 3 SHEETS
<b>1. PROJECT</b> GALLIPOLIS LOCK & DAM		<b>10. SIZE AND TYPE OF BIT</b> 4" X 5/8"		
<b>2. LOCATION (Coordinate or Station)</b> MONO R-78 STA 9+33 A		<b>11. DATUM FOR ELEVATION SHOWN (TBM or BBL)</b> M.S.L.		
<b>3. DRILLING AGENCY</b> W. G. J. BUES		<b>12. MANUFACTURER'S DESIGNATION OF DRILL</b> B-53 MOBILE		
<b>4. HOLE NO. (As shown on drawing title and file number)</b> R-78/2		<b>13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN</b>		<b>UNDISTURBED</b>
<b>5. NAME OF DRILLER</b> STEVE ERYE		<b>14. TOTAL NUMBER CORE BOXES</b> 9		<b>COMPLETED</b>
<b>6. DIRECTION OF HOLE</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		<b>15. DATE HOLE</b> 9-20-89		<b>STARTED</b> 9-20-89
<b>7. THICKNESS OF OVERBURDEN</b> 496.5		<b>16. ELEVATION TOP OF HOLE</b> 496.5		<b>17. ELEVATION GROUND WATER</b> 00-496.7
<b>8. DEPTH DRILLED INTO ROCK</b> 464.0		<b>18. TOTAL CORE RECOVERY FOR BORING</b> 32.5 %		<b>19. SIGNATURE OF INSPECTOR</b> JET
<b>9. TOTAL DEPTH OF HOLE</b> 32.5				

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	10		CLSH, S, m. dk. gr.			Pull #1
						START 9.00
						End 9.10
						Time 10
						Dri 10
						Ran 3.3
						REC 2.0
						LOSS 1.3
						Unacc 0
495.7	1		SLs, clay, s, m. h., m. dk. gr. max (0.4)			
494.7	2		CLSH, s, m. dk. gr., bkn occ w/o, 7 LC. blwn. 2.2. & 3.8. Sly. len. 4.7-50 Closely spaced & hor plys w/ir hvy dk. gr. cos / fld 5.0 - 8.4 w/1.1 LC.		1	
	3					TI & TD Depth 3.3
	4				3.8	Pull #2
						START 9.25
						End 9.36
						TIME 11
						Dri 11
						Ran 5.6
						REC 4.1
						LOSS 0.1
						UNACC 0
	6				2	
	7					TI Depth 7.3
	8				8.4	
	9					TD Depth 8.9
	10				3	Pull #3
						START 9.46
						END 9.55
						Time 9
						Dri 9
						Ran 3.2

# DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE

4966

Hole No. R78/2

PROJECT

Gallipolis Lock & Dam

INSTALLATION

ORH-CP

SHEET 2

OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Rec. 4.5 LOSS <del>0</del> UNACC <del>0</del>
	11				3	
	12				12.2	TI Depth 11.8 TP-Depth 12.1 Pull # 4 START 10:02 END 10:08 TIME 6 Dri 6 Ran 5.00 REC 4.1 LOSS <del>0</del> UNACC <del>0</del>
483.2	14		S.S., silty, fgy, m.h., m.dk. gr. bkn 14.0-14.4: hvy. gr. cl. Coa., irr. pit @ 14.6 & 15.5:		4	
	15					
481.6	16		CLS. silty m-dk. gr., S. ve bkn. 5' - 15.6 - ve. bkn Along Vent. face, 15.8 - 17.0		15.9	TI Depth 15.9
	17					
480.2	18		CLSH. dr. gr. s. w/ tr. cl. cor. on hor. hdd plns		5	TP Depth 17.1 Pull # 5 START 10:20 END 10:30 TIME 10 Dri 10 Ran 5.0 REC 4.1 LOSS <del>0</del> UNACC <del>0</del>
	19				18.8	
	20					TI & TP Depth 19.7 Pull # 6 START 10:41 END 10:48 TIME 7 Dri 7 Ran 4.0 REC 4.0 LOSS <del>0</del> UNACC <del>0</del>
476.7	21		CL/sh		6	
	22		(Cont)		(Cont)	

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-325-243

PROJECT

Gallipolis Lock & Dam

HOLE NO.

R-78/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R78/2		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
6ALLIPOLIS LOCK & DAM		ORH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLSH/ICL, dk. gr. - r. br, S. 51+ 0.3 L.C. h tun 19.9 & 23.4 hry cl. cld bdd. plns Trans		22.6	
473.8	23					TI Depth 23.6 TP Depth 23.7
	24		ICL S. ve bkn., r. br. 51K		7	Pull # 7 START 10:57 End 11:05 TIME 8 DRI 8 RAN 4.6 REC 4.8 LOSS 0 UNOCC 0
	25					
	26				26.4	
	27					
	28				8	TI Depth 28.3 TP Depth 28.5
	29					Pull # 8 START 11:12 End 11:28 TIME 16 DRI 16 RAN 5.2 REC 5.0 LOSS 0 UNOCC 0
	30				30.0	
	31				9	
	32					
463.8	33		Bottom Hole		33.4	TI & TP Depth 33.5

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

6ALLIPOLIS LOCK & DAM R-78/2

HOLE NO

DRILLING LOG		DIVISION	INSTALLATION	SHEET	
1. PROJECT <b>GALLIPOLIS Locks &amp; DAM</b>		<b>ORD</b>	<b>ORH-CD</b>	<b>OF 4 SHEETS</b>	
2. LOCATION (Coordinates or Station) <b>MONO R-79 STA 8+99 "A"</b>		10. SIZE AND TYPE OF BIT <b>#15/16</b>			
3. DRILLING AGENCY <b>W. G. JACOBS</b>		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-79/1</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
5. NAME OF DRILLER <b>STEVE FRYE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	UNDISTURBED <b>N/A</b>
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <b>9</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>496.8</b>		16. DATE HOLE		STARTED <b>9-20-89</b>	COMPLETED <b>9-21-89</b>
8. DEPTH DRILLED INTO ROCK <b>32.8</b>		17. ELEVATION TOP OF HOLE <b>496.8</b>		18. TOTAL CORE RECOVERY FOR BORING <b>32.8</b> %	
9. TOTAL DEPTH OF HOLE <b>5</b>		19. SIGNATURE OF INSPECTOR <b>LET</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		Interbedd CLS/SLS, m.d.k. gr., occ. sh., s. m.h.; Vabkn. 0.0-2.9: 4.4-5.2: hvy cl. 002 along near hor. ptgs starting @ 5.2		1	Pull # 1 START 12.14 End 12.27 Time 13 Drl 13 Ran 5.2 REC 5.2 Loss 0 Unacc 0
	2					
	3					
	4					
	5				3.2	
	6					TP & TI Depth 5.2
	7				2	Pull # 2 START 12.54 End 1.03 Time 9 Drl 9 Ran 4.5 REC 4.4 Loss 0 Unacc 0
	8				6.9	
488.2	9		SLS, -Se, m.d.k.gr., s. - m.h.; hor. ptg @ 9.0: irr., 0.4-9.0- 9.5 grading		3	
487.2	10					TI Depth 9.6 TP Depth 9.7
					(cont)	

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(TRANSLUCENT)

PROJECT **GALLIPOLIS Lock & DAM** HOLE NO. **R-79/1**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET		
GALLIPOLIS ROCKS DAM			ORH-CD	2		
OF 4 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	
			CLSH, s.-m.h., m.-dk gr. w/tr. cl. co2 along closely spaced hor. ptgs:			Pull #3 START 1:10 End 1:17 Time 7 DR 7 RAN 5.1 REC 5.2 LOSS 0 UNACC 0
484.8	12		SLS, s.-m.h., m.-dk gr grading		4	
483.8	13		SS. ve Sly. F.g., m.h. inter bed with Sly. lens			
482.7	14		SLS, s. m.h., m. dk. gr. occ. cly. close pts. shy. w/tr. cl. co2. / fld o.l., L.C. btam 14.8 & 19.4		14.1	TPETI Depth 14.8 Pull #4 START 1:32 End 1:41 Time 9 DR 9 RAN 4.8 REC 4.5 LOSS 0.1
	15				5	
	16					
	17				17.7	
	18					
	19				6	TI Depth 19.4 TP Depth 19.6 Pull #5 START 1:49 End 2:03 TIME 14 DR 14 RAN 8.6 REC 10.2 LOSS 0 UNACC 0
477.4	20		ICL., s. m.h., m. gr. s.l.k. grading			
	21				21.3	
474.8	22		(Cont)		Cont	

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-328-242

PROJECT GALLIPOLIS ROCKS DAM  
HOLE NO R-79/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		3 OF 4 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
			Ice, r.br., S, m.h., s.lk., bkm			
	23				7	
	24					
	25				25.1	
	26					
	27				8	
	28					TI DEPTH 28.2
	29				28.9	
	30					TP DEPTH 29.6
	31				9	Pull # 6 START 2:12 End 2:25 TIME 13 Drl 13 RDM 4.3 REC 2.9 LOSS 0 UNACC 0
	32					
	33					32.5 TI & TP DEPTH 32.5
	34					Pull # 7 START 7:30 End 7:38 TIME 8 Drl 8 RDM 3.0 REC 3.0 LOSS 0 UNACC 0

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. R-79/1



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 9 SHEETS	
2. LOCATION (Coordinate or Station)		6ALLIPOLIS ROCKS DAM		10. SIZE AND TYPE OF BIT		2" 15/16"	
3. DRILLING AGENCY		W. G. JACQUES		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-79/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		STEVE FRYE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED 11/4 UNDISTURBED 21/4	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 496.5		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		464.0		16. DATE HOLE		STARTED 9-15-89 COMPLETED 9-19-89	
9. TOTAL DEPTH OF HOLE		32.9		17. ELEVATION TOP OF HOLE		496.5	
				18. TOTAL CORE RECOVERY FOR BORING		32.9 %	
				19. SIGNATURE OF INSPECTOR		J.E.T.	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.5	1		interbed. CLS/SLS, pts., sh., s.m.h., m.-dk.gr. i c/ Coa/fld close ptg. 1.1 L.C. btwn 0.0-4.6.			Pull #1 START 2.00 End 2:07 Time 7 Drl 7 RAN 4.9 REC 3.5 Loss 1.1	
	2						
	3						
	4						
	5						
	6						
	7						
	8						
488	9		SLS, -sa, m.h., m.-dk gr.			TI Depth 4.9 TP Depth 4.6	
487.1	10		CLS. s.m.h., m.-dk gr. close hcr ptg. w/tr. hvy cl. Coa/fld			Pull #2 START 2.14 End 2:21 Time 7 Drl 7 RAN 4.8 REC 4.9	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
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PROJECT 6ALLIPOLIS ROCKS DAM HOLE NO. R-79/2



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6ALLIPOLIS LOCKS & DAM			DRH-CD		2 OF 3 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	11				3	Pull #3 START 2.32 End 2.40 Time 8 Drl 8 Ran 4.2 REC 5.0 Loss 0 UNACC 0
483.3	13				12.1	
	14		SS, sly, f. g. m. h. m. gr. w/ sly lam. irr pfg. along. sly. lam. 13.8 - 14.2		4	TI - Depth 13.9 TP - Depth 14.5
481.9	15		CLSH, occ. sly, sh, s. m. h., m. dk. gr. w/ tr. hvy. cl. cor/ fld along hor pgs. 0.6 L.C. btwn 14.5 & 17.2: fault. gauge zone 16.8 - 17.2		15.7	Pull #4 START 8.40 END 8.53 TIME 12 Drl 12 Ran 4.4 REC 3.0 LOSS 0.6 UNACC 0
479.2	17				5	
	18		SLS, sa, s. m. h. m. gr.			TI Depth 18.1 TP Depth 18.3
478.3	19		CLSH, s. m. h., m. dk. gr sli. sly. to 20.5: ve bkn w/ hvy. c/ com. 20.5 - 23.3		19.7	Pull #5 START - 9.23 End - 9.32 TIME 9 Drl 9 Ran - 5.0 REC - 5.2 LOSS - 0 UNACC 0
	20				6	
	21					
	22					TI Depth 21.9

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-242

PROJECT HOLE NO  
6ALLIPOLIS LOCKS DAM R-79/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock & DAM		ORH-CD		OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
423.1	23					
	24		ICL, r.br., s.m.h., SIK.ve. bkn 27.7-33.4			28.3 TP Depth 23.3
	25				7	Pull #6 START 9:40 END 9:49 TIME 9 DRI 9 RAN 5.2 REC 5.2 LOSS 0 UNACC 0
	26					
	27					26.7
	28					
	29				8	TI & TP Depth 28.5
	30					Pull #7 START - 10:00 END 10:12 TIME 12 DRI 12 RAN 4.9 REC 4.9 LOSS 0 UNACC 0
	31					30.4
	32				9	
463	33		Bottom Hole			33.4 TI & TP Depth 33.4

ENG FORM 1836-A  
JUN 67

GPO 1960 OF-329-243

PROJECT GALLIPOLIS Lock & DAM HOLE NO. R 79 1/2

DRILLING LOG		DIVISION <b>ORD</b>	INSTALLATION <b>GRH-CD</b>	Hole No. <b>N0011</b>	SHEET <b>7</b> OF <b>5</b> SHEETS	
1. PROJECT <b>Ball's Pond Locks &amp; Dam</b>			10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MONO R-80 STA 9133.4</b>			11. DATUM FOR ELEVATION SHOWN (TBM or BSL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACQUES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>R-53 Mobile</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-80/1</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>STEVE FRYE</b>			14. TOTAL NUMBER CORE BOXES <b>9</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0-496.5</b>			16. DATE HOLE <b>9-20-89</b>			
8. DEPTH DRILLED INTO ROCK <b>0</b>			17. ELEVATION TOP OF HOLE <b>496.5</b>			
9. TOTAL DEPTH OF HOLE <b>33.5</b>			18. TOTAL CORE RECOVERY FOR BORING <b>5</b>			
			19. SIGNATURE OF INSPECTOR <b>JET</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1		interbedd CLS/SLS, sh, s.s. m. h., m.-dk. gr. ve. blk w/ l.l. L.C. btwn 0.0 & 4.0 close near hor ptgs w/ hug cl. coal/fld to 3.2 w/ 0.1 L.C. btwn 3.3 & 7.3			Pull #1
	2					START - 9:00 End 9:10 Time 10 Drl 10 Ran 3.3 REC 2.0 Loss 1.3 undcc 0
	3					
	4					
	5					
	6					
	7					
	8					
488.3			SLS, sa., s.m.h., m. dk. gr.			TI & TP Depth 3.3
487.7	9		CLSH. s.m.h., m. dk. gr., occ. slt. close ptgs w/ hug. cl coal/fld, bky to 11.2			Pull #2
	10					START 9.25 End 9.36 Time 11 Drl 11 Ran 3.6 ? REC 4.1 Loss 0.1 undcc 0
						TI Depth 7.3
						TP Depth 8.9
						Pull #3

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R 8011		
PROJECT		INSTALLATION		SHEET		
GALLIPOLI'S LOCK & DAM		ORH-CD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	11					Pull #3 START 9.46 END 9.55 TIME 9 DRI 9 RAN 3.2 REC 4.5 LOSS 0 UNACC 0
	12				4.8	TI Depth 11.8
484.1						TP Depth 12.1
483.5	13		SS, silty, f.g., m.h., m.gr. hld., irr. pt. 12.5-13.0: grading silty @ 13.0			Pull #4 START 10.02 END 10.08 TIME 6 DRI 6 RAN 5.0 REC 4.1 LOSS 0 UNACC 0
	14		SLs, s.m.h., m.d.k.gr., pts. hor. grading			
481.5	15		ELSH, s.m.h., m.d.k.gr., close pty. w/tr. cl. coe.; 0.3 L.C. b/n 15.9 & 19.7 grading into		15.6	TI Depth 15.9
	16					
	17					TP Depth 17.1
	18					Pull #5 START 10.20 END 10.30 TIME 10 DRI 10 RAN 2.6 REC 3.5 LOSS 0.3 UNACC 0
	19				19.1	TI & TP 19.7
	20					
475.	21					Pull #6 START 10.41 END 10.48 TIME 7 DRI 7 RAN 4.0 REC 4.0 LOSS 0 UNACC 0
	22		Cont.			

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT GALLIPOLI'S LOCK & DAM HOLE NO R-8011

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No. <u>P-80/1</u>		
PROJECT			INSTALLATION	SHEET		
<u>GALLIPOLIS LOCKS DAM</u>			<u>ORH-CD</u>	OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	23		1CL, gr. - r. br., s. m. h., SLK, bkn. becoming r. br. @ 23.7		22.9	
	24					<u>TI Depth 23.6</u> <u>TP Depth 23.7</u> Pull #7 START 10:57 END 11:05 TIME 8 DRI 8 RAN 4.6 REC 4.8 LOSS 0 UNACC 0
	25					
	26				26.4	
	27					
	28					<u>TI Depth 28.3</u> <u>TP Depth 28.5</u> Pull #8 START 11.12 END 11.28 TIME 16 DRI 16 RAN 5.2 REC 5.0 LOSS 0 UNACC 0
	29					
	30				29.9	
	31					
	32					
	33					
463.			Bottom HOLE		33.5	<u>TI &amp; TP depth 33.5</u>

<b>DRILLING LOG</b>		<b>DIVISION</b> OED		<b>INSTALLATION</b> OPH-CD		<b>SHEET</b> 1 OF 3 SHEETS	
<b>1. PROJECT</b> GALLIPOLIS LOCK & DAM				<b>10. SIZE AND TYPE OF BIT</b> 4" YSK			
<b>2. LOCATION</b> (Coordinates or Station) MONO R-80 STA 9+63 A				<b>11. DATUM FOR ELEVATION SHOWN</b> (TBM or B.M.) M.S.L.			
<b>3. DRILLING AGENCY</b> W. G. JAGUES				<b>12. MANUFACTURER'S DESIGNATION OF DRILL</b> B-53 MID BILE			
<b>4. HOLE NO.</b> (As shown on drawing title and file number) R-80				<b>13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN</b> N/A		<b>UNDISTURBED</b> N/A	
<b>5. NAME OF DRILLER</b> STEVE FRYE				<b>14. TOTAL NUMBER CORE BOXES</b> 9		<b>15. ELEVATION GROUND WATER</b> N/A	
<b>6. DIRECTION OF HOLE</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				<b>16. DATE HOLE</b> STARTED 9-19-89 COMPLETED 9-19-89			
<b>7. THICKNESS OF OVERBURDEN</b> 0.496.4				<b>17. ELEVATION TOP OF HOLE</b> 496.4			
<b>8. DEPTH DRILLED INTO ROCK</b>				<b>18. TOTAL CORE RECOVERY FOR BORING</b> 33.3			
<b>9. TOTAL DEPTH OF HOLE</b> 33.3				<b>19. SIGNATURE OF INSPECTOR</b> JET			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			interbedd CLS/SLS - s.m.h., m.-dk.gr. bkn. w/0.7 L.C. btwn. 0.0 & 4.2 ve. bkn 52-B.0			Pull # 1 START 10:58 End 11:06 TIME 8 Drl 8 RAN 4.9 REC 3.5 LOSS 0.7 UNQCC 4.9
	1					
	2				1	
	3					
	4					
	5					4.2 TI Depth 4.2
	6					
	7					TP Depth 4.9
	8					Pull # 2 START 11:12 End 11:25 TIME 13 Drl 13 RAN 4.2 REC 5.1 LOSS 0
487.9			SLS - Sly. sa., s.m.h., m.g.		2	
487.6			CLS. s.m.h., m.-dk.gr. close spaced cl. cos. ptgs., grading 0.7 L.C. btwn 9.3 - 11.8			
	9				8.0	
	10				3	TI Depth 9.1 TP Depth 9.3 Pull # 3

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-80/z

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET		
6ALLIPOLIS LOCK & DAM			ORH-CD	2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	1				3	Pull # 3 START 12:25 End 12:33 Time 8 Drl 8 Ran 3.7 REC 2.7 Loss 0.7 unacc 0
484	12				11.6	
	13		SLS, s.l. sd., s.m. h.; ve bkn 12.7-13.0 grading			TI Depth 12.7 IP Depth 12.8 Pull # 4 START 12:44 End 12:56 Time 12 Drl 12 Ran 5.1 REC 5.1 Loss 0 unacc 0
482.9	14		CLSH, s.m. h.; m.dk. gr.; pts. hor. ve. bkn. 14.8-15.8 & 16.9-17.9 closely spaced near hor. plgs w/tn. CL. coa / fld starting @ 17.9 grading into		4	
	15				15.8	
	16					
	17					
	18				5	TI & IP Depth 17.9 Pull # 5 START 1:07 End 1:16 Time 9 Drl 9 RAN 4.3 REC 4.2 LOSS 0 unacc 0
	19				19.4	
	20					
	21				6	
	22					TI Depth 22.1

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT HOLE NO  
6ALLIPOLIS LOCKS & DAM R-80/2

PROJECT GALLIPOLIS LOCK DAM INSTALLATION OLAH-CD SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						TP Depth 22.2
						Pull # 6
						START 1:27
						End 1:34
						Time 7
						Dri 7
						RAN 4.5
						REC 4.6
						LOSS 0
472.9	24					
			ICL., r.bn, s.m.h., SLK bkn. becoming r.bn @ 23.7		7	
	25					
	26					
						26.7 TIE TP Depth 26.7
	27					Pull # 7
						START 1:44
						End 1:58
						Time 14
						Dri 14
	28					RAN 4.9
					8	REC 4.9
						LOSS 0
						Unacc 2
	29					
	30					
						30.5
	31					
						9 TIE TP Depth 31.6
	32					Pull # 8
						START 2:06
						End 2:14
						Time 8
						Dri 8
						RAN 2.8
						Rec 1.7
	33					LOSS 0
462.8			Bottom Hole		33.3	Unacc 0
						TI Depth 33.3
						TP Depth 34.4



DRILLING LOG		DIVISION <b>ORD</b>	INSTALLATION <b>ORH-CD</b>	Hole No. <b>R 811</b>	SHEET <b>1</b> OF <b>3</b> SHEETS
1. PROJECT <b>GALLIPOLIS LOCK DAM</b>			10. SIZE AND TYPE OF BIT <b>4 YS 1/2"</b>		
2. LOCATION (Coordinates or Station) <b>MONO R-81 STA 9+73.4</b>			11. DATUM FOR ELEVATION SHOWN (TSB = MSL) <b>M.S.L.</b>		
3. DRILLING AGENCY <b>W.G. JAMES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>		
4. HOLE NO. (As shown on drawing title and file number) <b>R-81</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		UNDISTURBED <b>N/A</b>
5. NAME OF DRILLER <b>Steve Frye</b>			14. TOTAL NUMBER CORE BOXES <b>9</b>		15. ELEVATION GROUND WATER <b>N/A</b>
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			16. DATE HOLE <b>9-21-89</b>		STARTED <b>9-21-89</b> COMPLETED
7. THICKNESS OF OVERBURDEN <b>0-496.7</b>			17. ELEVATION TOP OF HOLE <b>496.7</b>		
8. DEPTH DRILLED INTO ROCK			18. TOTAL CORE RECOVERY FOR BORING <b>32.7</b>		%
9. TOTAL DEPTH OF HOLE <b>32.7</b>			19. SIGNATURE OF INSPECTOR <b>JET</b>		

ELEVATION <small>a</small>	DEPTH <small>b</small>	LEGEND <small>c</small>	CLASSIFICATION OF MATERIALS (Description) <small>d</small>	CORE RECOVERY <small>e</small>	BOX OR SAMPLE NO. <small>f</small>	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) <small>g</small>
461.7	1		Interbedd. CLS/SLS. S.m.h., m.gr. -dk.gr. ve. bkn. 0-0.4-0. w/ 0.3 L.C.		1	Pull # 1 START 8:23 End 8:35 Time 12 Drl 12 Ran 4.9 REC 4.5 LOSS 0.3 unacc 0
492.2	5		SS - sly., f.g. m.h., m.gr., bkn 5.1-5.8		2	Ti Depth 4.8 TP Depth 4.9 Pull # 2 START 8:53 End 9:02 TIME 9 Drl 9 Ran 4.4 REC 4.2 LOSS 0 unacc 0
490.9	6		CLS-S.m.h., m.gr. ve bkn. w/hvy cl.fld to 9B		3	Ti Depth 9.3 TP Depth 9.4
486.9	10					

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No. R811		
PROJECT			INSTALLATION	SHEET		
GALLIPOLIS Locks & DAM			ORHECD	OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
486.3			SS. Sly. fig. mb., m. gr. grading			Pull # 3 START 9:20 End 9:30 TIME 10 Dri 10 RAN 5.3 REC 3.1 LOSS 0 UNACC 0
	11		CLSH. s.m.h., m. dk. gr. heavy cl. coal/ld along close hor ptgs		10.8	
	12				4	
484.2						TI Depth 12.5
	13		SS, Sly, fig. m.h. m. gr. Core Spon 12.5, -13.0 grading into			
483.2						
	14		SLS. Cly., s.m.h., m. gr. grading		14.1	
	15					TP Depth 14.6
481.1						Pull # 4 START - 9:41 End 9:48 TIME 7 Dri 7 RAN 4.3 REC 4.3 LOSS 0 UNACC 0 TI Depth 16.8
	16		CLSH. s.m.h., m. dk. gr. tr. - heavy cl. coal, close hor ptgs.		5	
	17					
	18				17.1	
	19					TP Depth 18.9
	20				6	Pull # 5 START 9.55 End 10.07 Time 12 Dri 12 RAN 3.1 REC 5.2 LOSS 0 UNACC 0
	21					
	22				21.4	
						TI & TP Depth 22.0

ENG FORM  
JUN 67 1836-A

GPO 1965 OF-328-243

PROJECT  
GALLIPOLIS Locks & DAM R-811

HOLE NO

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
GALLIPOLIS Lock & Dam		ORH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
474.2	22					Pull # 6 START 10:17 End 10:25 TIME 8 DRI 8 RAN 5.0 REC 4.9 LOSS 0 UNACC 0
	23		ICL, r. br., s. m. hd., bkn., SIL			
	24					
	25				25.1	
	26					
	27					TI Depth 26.9 TP Depth 27.0 Pull # 7
	28				27.6	START 10:32 End 10:45 TIME 13 DRI 13 RAN 5.8 REC 5.9 LOSS 0 UNACC 0
	29					
	30					
	31					
	32					
464.3			BOTTOM HOLE		32.4	
	33					TI & TP Depth 32.8

DRILLING LOG		DIVISION <b>ORD</b>	INSTALLATION <b>ORH-CD</b>	SHEET <b>1</b> OF 3 SHEETS		
1. PROJECT <b>GALLI POLIS LOCK &amp; DAM</b>			10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinate or Station) <b>MOND R-81 STA 10+03 "A"</b>			11. DATUM FOR ELEVATION SHOWN (TBM or BSL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JAMES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-81 1/2</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>			
5. NAME OF DRILLER <b>STEVE FRYE</b>			14. TOTAL NUMBER CORE BOXES <b>10</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER			
7. THICKNESS OF OVERBURDEN <b>0-496.7</b>			16. DATE HOLE STARTED <b>9-21-89</b> COMPLETED			
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE <b>484.0</b>			
9. TOTAL DEPTH OF HOLE <b>32.7</b>			18. TOTAL CORE RECOVERY FOR BORING <b>32.7</b> %			
			19. SIGNATURE OF INSPECTOR <b>JET</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
996.7			interbedded CLS/SLS, m.-dk gr. S.-m. h., sh. & blk. 0.0-3.6 w/0.5 b.c. 0.3. Sa. len 4.3-4.6: close hor. ptgs. w/tr 1 fld. gr. cl. 4.6-13.0 0.9 b.c. btwn 4.6 & 8.7 sl. Sa. 9.3-9.8			Pull # 1
	1					START 12.31
						End 12:47
						Time 16
						Drl 16
						Ran 4.9
						REC 4.1
						LOSS 0.5
						UNACC 0
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					

ENG FORM 1836  
MAR 71

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PROJECT

GALLI POLIS Locks & Dam

HOLE NO.

R-81 1/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock & Dam		ORH-CD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	11				3	Pull #3 START 1:18 End 1:25 TIME 7 DRI 7 RAN 3.7 REC 2.8 Loss 0 Unacc 0
	12				11.5	
483.7	13					TI Depth 11.5
	14		SLS. Sa., Cly. s-m.h, m.-dk gr., mass. to 15.9: core spin @ 15.9: 30° SLK ptg @ 16.5:		4	TP DEPTH 13.5 Pull #4 START 1.35 END 1.47 TIME 12 DRI 12 RAN 4.4 REC 5.2 Loss 0 Unacc 0
	15				15.1	
	16					TI DEPTH 16.7
480.0	17		CLS.-sly, s. m.h., m.-dk gr., shy: tr. gr. cl. coa, close ptgs		5	TP DEPTH 17.9
478.9	18		SLS.-cly, s.-m.h., m. dk. gr.,		18.4	Pull #5 START 1.56 END 2.16 TIME 20 DRI 20 RAN 4.0 REC 5.2 LOSS 0 Unacc 0
478.2	19		CLS./ICL. trans. zone; shy, m. dk. gr. s.-m.h., close ptgs w/ tr.-hy. cl. coa/ptg		6	
	20					
	21					
474.8	22				21.9	TI & TP Depth 21.9

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT  
GALLIPOLIS Locks & Dam

HOLE NO.  
R-81/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock Dam		ORH-CD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
			IC6 - 5. - mih, r. br.			Pull #6
	23		bknig SLK.			START 2:15
						End 2:22
						Time 7
						Drl 7
						Ran 5.0
						REC 5.2
						LOSS 0
						UNACC 0
	24				7	
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT HOLE NO.  
GALLIPOLIS Locks Dam R-81/2

DRILLING LOG		DIVISION <b>ORD</b>	INSTALLATION <b>ORH-CD</b>	SHEET <b>1</b> OF 3 SHEETS		
1. PROJECT <b>GALLIPOLIS LOCK 1 DAM</b>			10. SIZE AND TYPE OF BIT <b>1 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MOND R-82 STA 10+13 R</b>			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. B. JAMES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B- MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R 82/1</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>			
5. NAME OF DRILLER <b>STEVE FRYE</b>			14. TOTAL NUMBER CORE BOXES <b>9</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0 - 497.0</b>			16. DATE HOLE <b>9-26-89</b>			
8. DEPTH DRILLED INTO ROCK <b>464</b>			17. ELEVATION TOP OF HOLE <b>497.0</b>			
9. TOTAL DEPTH OF HOLE <b>33</b>			18. TOTAL CORE RECOVERY FOR BORING <b>33</b> %			
			19. SIGNATURE OF INSPECTOR <b>JET</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
997.0	1		CLS./SLS. interbedd., m.-dk. gr., S.-m. hd, ool. sh. w/ol ool. hor. ptgs SLS. Zo. 9.2. - 11.8: ss. len 1.1-1.2 ve bkn. w/hvy. gr. cl. ool. sst 11.8-13.6			<b>Pull #1</b>  START 8:09 End 8:17 TIME 8 D+I 8 RAN REC 4.7 LOSS 0 UNACC 0
	2				1	
	3					
	4				3.8	
	5					<b>TI Depth 4.7</b> <b>TP Depth 4.9</b>
	6				2	<b>Pull #2</b>  START 8:24 End 8:34 TIME 10 D+I 10 RAN REC 4.5 LOSS 0 UNACC 0
	7					
	8				7.5	
	9				3	
	10					<b>TI Depth 9.2</b> <b>TP Depth 9.4</b> <b>Pull #3</b>  COR: 7

ENG FORM 1836  
MAR 71

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PROJECT

**GALLIPOLIS LOCK 1 DAM**

HOLE NO.

**R-82/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock & Dam		ORH-CD		2 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	11				11.2	Pull # 3 START 8:41 End 8:47 Time 6 Dri 6 Ran REC 5.0 LOSS 0 UNACC 0
483.4	12				4	
	13					
	14		SLS, -sa., s.-m. hd., m.-dk. gr., mass. 1/4" gr cl. fld. ptg. @ 15.			TI Depth 14.2 TP Depth 14.4 Pull # 4. START 9:09 End 9:18 Time 9 Dri 9 Ran REC 4.2 LOSS 0 UNACC 0
481	15					
	16		CLS. s.m.-hd.; m.-dk. gr.; shy; close med. ptgs. w/ to. gr. cl/ occ. fld		5	REC 4.2 LOSS 0 UNACC 0
	17					
	18				18.3	TI Depth 18.4
	19					
477.2	20		CLS./ICL trans., s.-m.-hd. m.-dk. gr.; occ shy		6	Pull # 5 START 9:26 End 9:38 Time 12 Dri 12 Ran REC 4.2 LOSS 0 UNACC 0
	21					
	22				21.9	UNACC 0

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT GALLIPOLIS Lock & Dam  
HOLE NO R-82/1



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 492.0	Hole No. <b>R 82/1</b>		
PROJECT <b>GALLIPOLIS LOCK + DAM</b>		INSTALLATION <b>ORH-CD</b>		SHEET <b>3</b> OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.4						<u>TI Depth 22.5</u> <u>TP Depth 22.6</u> Pull #6 START 9.43 End 10.00 Time 17 Dri 17 RAN REC 4.2 LOSS 0 UNACC 0
	23		ICL. - n. br., s. - m. hd., bkn., SH.			
	24				7	
	25					
	26					
	27					<u>TI &amp; TP Depth 26.8</u> Pull #7 START 10:05 End 10:15 Time 9 Dri 9 RAN REC 4.6 LOSS 0 UNACC 0
	28				8	
	29					
	30					
	31					
	32				9	<u>TI &amp; TP Depth 31.4</u> Pull #8 START 10:20 End 10:28 Time 8 Dri 8 RAN REC 2.6 LOSS 0 <u>TI Depth 33.0</u> <u>TP Depth 33.4</u>
464.0	33		Bottom Hole		33.2	

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT **GALLIPOLIS LOCK + DAM** HOLE NO. **R-82/1**

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 3 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCKS 1 DAM</b>				10. SIZE AND TYPE OF BIT <b>4 1/2" M.S.L.</b>			
2. LOCATION (Coordinates or Station) <b>MDA10 R-82 STA 10 +43 "A"</b>				11. DAY/HR FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JAGUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-82</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>STEVE FRYE</b>				14. TOTAL NUMBER CORE BOXES <b>9</b>		UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE STARTED <b>9-25-89</b> COMPLETED <b>9-26-89</b>	
7. THICKNESS OF OVERBURDEN <b>0 497.1</b>				17. ELEVATION TOP OF HOLE <b>497.1</b>		18. TOTAL CORE RECOVERY FOR BORING <b>33.1</b>	
8. DEPTH DRILLED INTO ROCK				19. SIGNATURE OF INSPECTOR <b>JET</b>		9. TOTAL DEPTH OF HOLE <b>33.1</b>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		OLS. - sh.; s.; m.-dk. gr.; bkn; grading 0.1 LC 0.0-2.0			Pull #1 START 1.00 END 1.10 TIME 10 DR 10 RAN 4.9 REC 4.9 LOSS .01 UNACC 0	
495.1	2		SS. - sly; fq.; m. hd; mdk gr; mass		1		
	3						
	4				3.8		
492.1	5		OLS. / SLS. interbdd.; s. m. h.; m.-dk. gr. OLS sh. w/cl. Coa. on close ptgs 0.3 L.C. b/w 5.0 & 10.0		2	TI Depth FP Depth 5.0 Pull #2 START 1.20 END 1:29 TIME 9 DR 9 RAN 5.2 REC 4.7 LOSS 0.3 UNACC 0	
	6						
	7				7.4		
	8						
488.1	9		SLS. Sa, S.-m. hd., m.-dk. gr.		3		
	10		Cent.			TI Depth 10.0	

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PROJECT  
**GALLIPOLIS LOCKS 1 DAM**  
HOLE NO.  
**R-82/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
Gallipolis Lock's DAM		ORHCD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description) a	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
486.9						TP Depth 10.1
	11				11.2	Pull # 3 START 1.40 End 1.54 TIME 14 Drl 14 Ran 4.8 REC 4.5 LOSS 0.3 unacc 0
	12				4	
	13					
482.9	14					
	15		SS sly, f.g., m. hd, m.-dk. gr. cl. coa., hor. ptg. @ 14.3 bkn. 15.0 - 15.7: 1/4" cl. coa., CLS 1cm @ 15.7		14.8	TI Depth 14.8 TP Depth 14.9 Pull # 4 START 2.10 End 2.20 TIME 10 Drl 10 Ran 4.5 REC 4.6 LOSS 0 unacc 0
481.2	16		CLS/SLS interbedd.; s. m. hd; m.-dk. gr. CLS sly w/cl. coa on close plgs		5	
	17					
	18				18.6	
	19					TI Depth 14.8 TP Depth 14.9 Pull # 5 START 2.24 LOSS 0 End 2.30 unacc 0 TIME 6 Drl 6 Ran 1.6 REC 1.4 TI DEPTH 20.9 TP Depth 21.0 Pull # 6
	20				6	
	21					
	22					

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT  
Gallipolis Lock's Dam

HOLE NO  
R-82/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.1		Hole No. R82/2		
PROJECT GALLIPOLIS Lock & Dam		INSTALLATION ORH-CD		SHEET 3 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
					22.3	Pull #6
						START 2.32
						END 2.44
						TIME 12
						DRI 12
						RAN 4.9
						REC 4.5
						LOSS 0
						UNACC 0
	23					
	24				7	
	25					
471.8						TP Depth 25.5
			ICL - r. br; S. - m. hd.; SILK; bkn.			
	26				26.0	TP Depth 25.9
						Pull #7
						START 256
						END 3:08
						TIME 12
						DRI 12
					8	RAN 4.6
						REC 5.2
						LOSS 0
						UNACC 0
	27					
	28					
	29					
	30				29.8	
						TI & TE Depth 30.5
						Pull #8
						START 7:35
						END 7:42
						TIME 7
						DRI 7
						RAN 2.9
						REC 2.8
						LOSS 0
						UNACC 0
	32				9	
464	33		Bottom Hole		33.1	
						TI Depth 33.1
						TP Depth 33.4

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT GALLIPOLIS Lock & Dam  
HOLE NO. R-82/2

DRILLING LOG		ORD		DRH-CD		OF 3 SHEETS	
1. PROJECT <u>GALLIPOLIS Lock &amp; DAM</u>				10. SIZE AND TYPE OF BIT <u>4 1/2" H</u>			
2. LOCATION (Coordinate or Station) <u>MONO R-83 STA. 10+53 A</u>				11. DATUM FOR ELEVATION SHOWN (BM or HBM) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. E. JACQUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-83/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		14. TOTAL NUMBER CORE BOXES	
				<u>N/A</u>		<u>10</u>	
5. NAME OF DRILLER <u>STEVE FRY</u>				15. ELEVATION GROUND WATER <u>N/A</u>		16. DATE HOLE	
						STARTED <u>9-26-89</u> COMPLETED <u>9-26-89</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				17. ELEVATION TOP OF HOLE <u>497.0</u>			
7. THICKNESS OF OVERBURDEN <u>0 - 492.0</u>				18. TOTAL CORE RECOVERY FOR BORING <u>33.0</u> %			
8. DEPTH DRILLED INTO ROCK <u>464</u>				19. SIGNATURE OF INSPECTOR <u>JET</u>			
9. TOTAL DEPTH OF HOLE <u>53.0</u>							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.0						Pull #1	
	1		CLS/SLS interbedd.; s. m. hd.; m.-dk. gr CLS shy. w/tr. cl. coa on ptgs			START 10.44	
						End 10.51	
						Time 7	
						Drl 7	
					1	Ran 4.9	
						REC 4.6	
						Loss 0	
						Unacc 0	
	3						
	4					3.8	Ti Depth 4.6
	5					TP Depth 4.9	
						Pull #2	
	6				2	START 11:00	
						End 11:09	
						Time 9	
						End 9	
						Ran 4.5	
						REC 4.7	
						Loss 0	
					7.5	Unacc 0	
	8						
	9				3		
						Ti Depth 9.3	
						TP Depth 9.4	
	10					Cont.	

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PROJECT GALLIPOLIS Lock & DAM HOLE NO. R-83/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 GALLIPOLIS Lock Dam		497.0 ORH-CD		R 83/1		
SHEET		OF 3 SHEETS		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
						Pull # 3
	11				10.9	START 11:14
						End 11:28
						Time 14
						Drl 14
	12					Ran 4.5
						REC 4.4
						LOSS 0
					4	UNACC 0
	13					
483.3						TI Depth 13.7
						TD Depth 13.9
	14		SLS. sa., m. hd.; m.-dk. gr.; mass. cl. fld. ptg. @ 16.4 & 16.6 grading @ 17.6		14.6	Pull # 4
						START 11:35
						End 11:47
	15					Time 12
						Drl 12
						Ran 4.5
	16					REC 4.4
						LOSS 0
					5	UNACC 0
	17					
497.2						
	18		CLS/SLS interbedd.; s. m. hd. m.-dk. gr. CLS shy.		18.1	TI Depth 18.1
						TP Depth 18.4
	19					Pull # 5
					6	START 12:30
						End 12:40
						Time 10
						Drl 10
	20					Ran 5.00
					21.6	REC 4.9
						LOSS 0
	21					UNACC 0
					7	
	22					

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT HOLE NO.  
GALLIPOLIS Lock Dam R 83/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET		
6 GALLIPOLIS LOCK DAM			DEH-CD	3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
474.2						
	23		ICL: r.br., s.-m. hd., Bkn, SIK		7	TI Depth 23.0 TP Depth 23.4
	24					Pull # 6 START 12.45 End 12.52 TIME 7 DRI 7 RAN 1.6 REC 2.0 LOSS 0
	25					25.0 TI & TP Depth 25.0
	26				8	Pull # 7 START 1:00 End 1:07 TIME 7 DRI 7 RAN 5.1 REC 5.0 LOSS 0 UNOCC 0
	27					
	28					
	29					
	30				9	TI Depth 30.0 TP Depth 30.1
	31					Pull # 8 START 1:15 End 1:23 TIME 8 DRI 8 RAN 3.7 REC 3.8 LOSS 0 UNOCC 0
	32					
	33				10	
463.2			Re-ent. Hdr			33.8 TI & TP Depth 33.8

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT HOLE NO  
GALLIPOLIS LOCK DAM R-83/1

<b>DRILLING LOG</b>		<b>DIVISION</b> ORD		<b>INSTALLATION</b> OPH-CD		<b>SHEET - 1</b> OF 4 SHEETS	
<b>1. PROJECT</b> GALLIPOLIS LOCK & DAM				<b>10. SIZE AND TYPE OF BIT</b> 4" Y58"			
<b>2. LOCATION (Coordinate or Station)</b> MOND R83/STA 10+43				<b>11. DATUM FOR ELEVATION SHOWN (TBM or BBL)</b> M.S.L.			
<b>3. DRILLING AGENCY</b> W. G. JACQUES				<b>12. MANUFACTURER'S DESIGNATION OF DRILL</b> B-53 MOBILE			
<b>4. HOLE NO. (As shown on drawing title and file number)</b> R-83/2				<b>13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN</b>		<b>DISTURBED</b> N/A	<b>UNDISTURBED</b> N/A
<b>5. NAME OF DRILLER</b> STEVE FRYE				<b>14. TOTAL NUMBER CORE BOXES</b> 10		<b>15. ELEVATION GROUND WATER</b> N/A	
<b>6. DIRECTION OF HOLE</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				<b>16. DATE HOLE</b> 9-25-89		<b>STARTED</b> COMPLETED	
<b>7. THICKNESS OF OVERBURDEN</b> 0 - 497.2				<b>17. ELEVATION TOP OF HOLE</b> 497.2		<b>18. TOTAL CORE RECOVERY FOR BORING</b> 53.2 %	
<b>8. DEPTH DRILLED INTO ROCK</b> 33.2				<b>19. SIGNATURE OF INSPECTOR</b> JET			
<b>9. TOTAL DEPTH OF HOLE</b> 464							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SLS - s.m. hd.; m.-dk. gr. w/ sa lens			Pull #1 START 8:03 End 8:14 TIME 11 Dr/ 11 Ran 4.0 REC 3.4 LOSS 0.6 UNACC 0
497.7	2				1	
	3		SS. sly.; fq.; m. hd.; m.-dk. gr. brn.			
	4					
493					4.0	TIETP Depth 4.0
	5		CLS/SLS interbdd. s.m. hd., m.-dk. gr. CLS. sly. w/coa ptgs.			Pull #2 START 8:20 End 8:32 TIME 12 Dr/ 12 Ran 5.4 REC 5.0 LOSS 0 UNACC 0
	6				2	
	7					
	8				7.8	
	9				3	TI Depth 9.0 TF Depth 9.5
487.7						
	10					

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PROJECT HOLE NO.  
GALLIPOLIS LOCK & DAM R-83/2



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.2	Hole No. R83/2		
PROJECT GALLI POLI'S LOCK & DAM			INSTALLATION ORH-CD	SHEET 2 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11		SLS. s.-m. hd., m.-dk. gr. occ. clay. sly. ss. len 9.5-9.8; m. spaced 3-4 in. near hor pty			Pull # 3 START 8:40 End 8:49 TIME 9 Drl 9 Ran 4.5 REC 4.8 LOSS 0 UNACC 0
485.2	12		CLS s.-m. hd., sly., m. dk. gr. occ. sly. bkn. 12.3-13.2; hor., 1/2" gr. cl. fld. pty @ 13.2; sly. 13.2-14.2		11.4	TI Depth 13.8 TP Depth 13.9
	13				4	
483.0	14		SS., sly. f.g., m. hd. m. gr. bkn. (mich) 14.2-14.9		14.9	Pull # 4 START 9:00 End 9:17 TIME 17 Drl 17 Ran 3.0 REC 1.6 LOSS 0 UNACC 0 TI Depth 15.4
481.9	15					
	16		SLS Sa., s.-m. hd., m.-dk gr. bkn., 15.3-15.4; hor., o. pty @ 15.6; ang. Break. w/overcore 15.8-16.1		5	TP Depth 16.9
480.6	17		CLS., sly., s.-m. hd., m.-dk. gr. occ. sly. closely spaced (max 3 in) pty occ. cl coa / sly.; bkn		18.5	Pull # 5 START 9:29 End 9:40 TIME 21 Drl 21 Ran 4.0 REC 5.2 LOSS 0 UNACC 0 TI Depth 19.7
	18					
	19					
	20				6	TI Depth 20.9
	21					
	22				21.9	

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-245

PROJECT  
GALLI POLI'S LOCK & DAM

HOLE NO  
R83/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCKI DAM		ORH-CD		3 OF 4 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
474.6						Pull # 6 START 10:20 End 10:41 TIME 21 Drl 21 Ran 4.0 REC 5.2 LOSS 0 UNACC 0
	23					
	24					
	25					24.9 TIE TP Depth 24.9
	26					Pull # 7 START 11:00 End 11:14 TIME 14 Drl 14 Ran 5.1 REC 5.1 LOSS 0 UNACC 0
470.6						
	27		ICL. s.m. hd., r. br, SLK., bkm.			
	28					
	29					28.7
	30					TIE TP Depth 30.0
	31					Pull # 8 START 11:30 End 11:41 TIME 11 Drl 11 Ran 5.5 REC 5.1 LOSS 0 UNACC 0
	32					32.3
	33					
	34					

ENG FORM  
JUN 67 1836-A

GPO 1960 OF-329-243

PROJECT  
GALLIPOLIS LOCKI DAM

HOLE NO  
R-831/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.7		Hole No. R8312	
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION OAH-CD		SHEET 27 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	35				35.1	TP 34.2
462.1			Bottom HOLE			

ENG FORM 1836-A  
JUN 67

CPO 1060 OF-329-243

PROJECT

GALLIPOLIS LOCK DAM R-8312

HOLE NO

DRILLING LOG		DIVISION		INSTALLATION		Hole No. K 2411	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		<b>ORD</b>		<b>ORH-CD</b>		SHEET OF 3 SHEETS	
2. LOCATION (Coordinates or Station) <b>MONO R-84 1STA 10+93 "A"</b>		10. SIZE AND TYPE OF BIT <b>4 1/2" B"</b>		11. DAYUM FOR ELEVATION BROWN (FSM or HSE) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JAMES</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>R-8411</b>		14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>STEVE FRYE</b>		16. DATE HOLE		STARTED <b>9-26-87</b>		COMPLETED <b>9-27-87</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE <b>497.1</b>		18. TOTAL CORE RECOVERY FOR BORING <b>33.1</b>		19. SIGNATURE OF INSPECTOR <b>JET</b>	
7. THICKNESS OF OVERBURDEN <b>0 - 4971</b>		19. SIGNATURE OF INSPECTOR					
8. DEPTH DRILLED INTO ROCK <b>33.1</b>							
9. TOTAL DEPTH OF HOLE <b>464</b>							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		CLS. shly, s., m-dk. gr., bkn			Pull #1 START 1.58 END 2.08 Time 10 Drl 10 Ran 4.9 REC 5.2 LOSS 0 UNACC 0
493.4	4		SS. sly. f.g., m. hd., m. gr. 60°, o., t. w/tn. gr. cl coar., 3.7-4.1 grading ve. sly @ 6.0		1	
	5				3.7	TI Depth 4.9 TP Depth 5.2 Pull #2
490.9	6		CLS/SLs. interbdd, s. m. hd., m. dk. gr. closely spaced (max 3 in) ptgs. w/ir. - hvy cl coar. 9.3-9.8 w/o.2 b.c.		2	START 2.10 END 2.18 Time 8 Drl 8 Ran 4.5 REC 4.3 LOSS 0 UNACC 0
	7				7.4	
	8				3	
	9					TI Depth 9.3 TP Depth 9.4
487.3	10					

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock Dam		ORH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
486.5	10		SS. ve. sly. fig., m. h., m. gr. w/occ sly. kns; bkn. sly. 9.9-10.3; 4.5° h.3, irr., o., f. 10.8-10.6			Pull #3 START 2.25 End 2.32 TIME 7 Dri 7 Ran 4.0 REC 3.9 LOSS 0.2 UNACC 0
	11		CLS/SLS. interbdd., s. m. hd., m. dk. gr. ptg shy.; Ve. bkn. 12.1-12.6		10.7	
	12					
	13					
	14					
482.7	15		SS, sly. 4.9, m. hd., m. gr. ve sly. 14.4-15.2 w/closely spaced ptgs; irr., near hor. ptgs @ 16.6 & 16.7 grading more sly. w/depth		14.2	Pull #4 START 2.47 End 3.00 TIME 13 Dri 13 Ran 4.3 REC 4.7 LOSS 0 UNACC 0
	16					
	17					
479.8	18		CLS. occ. sly., ptg shy., s. m. hd. m. dk. gr. w/tr. hvy cl. coa on ptgs		17.8	TP Depth 17.7 TP Depth 18.1 Pull #5 START 7:35 End 7:45 TIME 10 Dri 10 Ran 4.0 REC 3.5 LOSS 0 UNACC 0
	19					
	20					
	21					
475.2	22				21.3	TP Depth 21.6 TP Depth 21.7

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-325-243

PROJECT

GALLIPOLIS Lock Dam

HOLE NO.

R-84/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. <u>R 84/1</u>		
PROJECT		INSTALLATION		SHEET <u>3</u> OF 3 SHEETS		
<u>GALLIPOLIS LOCK DAM</u>		<u>ORH-CD</u>				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		ICC. r. br., s. m. hd., SIK.			Pull #6 START 7:50 End 8:00 TIME 10 Drl 10 RAN 5.1 REC 5.2 LOSS 0 UNACC 0
	23				7	
	24					
	25				25.0	
	26					
	27				8	TI & TP Depth 26.8 Pull #7 START 8:07 End 8:16 TIME 9 Drl 9 RAN 3.3 REC 4.2 LOSS 0 UNACC 0
	28				28.7	
	29					
	30				9	TI Depth 30.0 TP Depth 30.1 Pull #8 START 8:20 End 8:29 TIME 9 Drl 9 RAN 4.8 REC 4.2 LOSS 0 UNACC 0
	31				31.4	
	32				10	
	33					
462.9	34					TI Depth 34.2 TP Depth 34.9

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

R-84/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		ORD		ORH-CD		SHEET 1 OF 3 SHEETS	
2. LOCATION (Coordinates or Station) <b>MONO R-84 15A 11+23 "A"</b>		10. SIZE AND TYPE OF BIT <b>4" 15 1/2"</b>		11. DATUM FOR ELEVATION SHOWN (FEET or METER) <b>M. S. L</b>			
3. DRILLING AGENCY <b>W. G. JAGUES</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-59 MOBILE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>R-84 1/2</b>		14. TOTAL NUMBER CORE BOXES <b>9</b>		15. ELEVATION GROUND WATER <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>STEVE FRYE</b>		16. DATE HOLE		STARTED <b>10-2-89</b>		COMPLETED <b>10-2-89</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE <b>497.7</b>		18. TOTAL CORE RECOVERY FOR BORING <b>33.7</b>		19. SIGNATURE OF INSPECTOR <b>JET</b>	
7. THICKNESS OF OVERBURDEN <b>0 497.7</b>		8. DEPTH DRILLED INTO ROCK <b>33.7</b>		9. TOTAL DEPTH OF HOLE <b>464</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.7	1		CLS. shly, s., w/hvy cl. fh. closely spaced pgs			Pull # 1 START 7:56 End 8:04 Time 8 Drl 8 Ran 5.0 Rec 4.8 Loss. 0	
493.9	4		SS, sly, f.g., m. hd, m.gr. bkn. ha; t. w/hvy. cl coa 5.2 - 7.5 w/ 0.5' L.C. i ptg. along ha, irr. c.l. stgs @ 8.1 - 8.5		1	TI Depth 4.8 TP Depth 5.0	
	5				2	Pull # 2 START 8:10 End 8:17 Time 7 Drl 7 Ran 4.3 REC 3.9 LOSS 0.5	
489.2	9		CLS acc. sly., s.-m. hd., m. dd. gr. bkn. 9.2 = 10.4 w/ 1.0' L.C. 0.1' - SS. 1en @ 10.4 - 10.5 ve. bkn.		3	TI Depth 9.2 TP Depth 9.3	
	10		Cont			Cont	

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PROJECT  
**GALLIPOLIS LOCK & DAM**

HOLE NO.  
**R 84 1/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		497.7		Hole No. R 84 1/2	
PROJECT		INSTALLATION		SHEET		OF 25 SHEETS	
GALLIPOLIS LOCK & DAM		OCH-CD					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	10		10.5-14.0 w/o. l. L.C. blwn 13.8 & 14.0		3	Pull #3 START 8:25 End 8:35 Time 10 Drl 10 Ran 4.4 REC 3.6 LOSS 1.0	
	11				11.5		
	12						
	13				4		
483.7	14		SS, sly. f.g., m. hd., m. gr. sly. ang., Smooth, SILK ptg. @ 15.9			TI Depth 13.7 TP Depth 13.8 Pull #4 START 8:43 End 8:50 Time - 7 Drl 7 Ran 4.7 REC 2.7 LOSS 0.1	
	15				15.8		
481.7	16		SLS./CLS interbedd., s. m. hd., m.-dk. gr., CLS. sly ve. bkn. 16.4-16.6, bkn., SILK 17.0-17.5 w/o. l. L.C. (CLS) Cl. loa. on. sly. ptgs. & CLS/SLS. contacts				
	17				5		
	18					TI Depth 16.6 TP Depth 18.4	
	19					Pull #5 START 9.00 End 9.12 Time 12 Drl 12 Ran 1.9 REC 3.6 LOSS 0.1	
477.5	20				19.3		
	21		CLS. s. m. hd., m. gr. r. br. 0.2' L.C. blwn 22.4 & 22.9		6	TI & TP Depth 20.2	
	22					cent.	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

R 84 1/2



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	497.7		Hole No.	R 84/2	
PROJECT			INSTALLATION		SHEET		OF 5 SHEETS	
GALLIPOLIS LOCKS & DAM			ORH-CD					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)		
a	b	c	d	e	f	g		
474.7	23		ICC. n.br., s.m.hd., slk.		22.7	Pull # 6 START 9:18 End 9:30 TIME 12 Drl 12 Ran 4.8 REC 4.6 LOSS 0.2		
	24							
	25				7	TL & TP Depth 25.1 Pull # 7 START 9:35 END 9:49 TIME 9 Drl 9 Ran 4.8 REC 5.2 LOSS 0		
	26							
	27				27.4			
	28							
	29				8			
	30				30.1	TL Depth 29.9 TP Depth 30.6		
	31					Pull # 8 START 9:50 End 10:04 TIME 14 Drl 14 Ran 3.8 REC 3.4 LOSS 0		
	32				9			
	33							
464.0			Bottom HOLE		33.7	T, & TP 33.7		

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT HOLE NO.  
GALLIPOLIS LOCKS & DAM R 84/2

DRILLING LOG		Division	INSTALLATION		Hole No.
PROJECT		ORD	ORH-CD		RD 211
LOCATION (Coordinates or Station)		BALLIPOLIS Locks + DAM		SHEET 1 OF 4 SHEETS	
DRILLING AGENCY		MWD R-ES 11+33 A		10. SIZE AND TYPE OF BIT 4 1/2"	
HOLE NO. (As shown on drawing title and file number)		R-ES		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
NAME OF DRILLER		STEVE FRYE		12. MANUFACTURER'S DESIGNATION OF DRILL	
DIRECTION OF HOLE		VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> DEG. FROM VERT.		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
THICKNESS OF OVERBURDEN		0 - 497.9		14. TOTAL NUMBER CORE BOXES	
DEPTH DRILLED INTO ROCK		33.9		15. ELEVATION GROUND WATER	
TOTAL DEPTH OF HOLE		464		16. DATE HOLE	
ELEVATION		497.9		17. ELEVATION TOP OF HOLE	
DEPTH		1		18. TOTAL CORE RECOVERY FOR BORING	
LEGEND		CLS - shy, s. m. hd., m-dk. gr.		19. SIGNATURE OF INSPECTOR	
CLASSIFICATION OF MATERIALS (Description)		SS. - sly f. g., m. hd., m. gr. CLS/SLS fld. var. frac. 5.0 - 8.2. grading into		JEF	
CORE RECOVERY		3.7		REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
BOX OR SAMPLE NO.		1		Pull #1	
				START 9:19	
				End 9:28	
				Time 9	
				Dri 9	
				Ran 4.9	
				Rec 4.5	
				Loss 0	
				TI Depth 4.5	
				TP Depth 4.9	
				Pull #2	
				START : 9:37	
				End 9:46	
				Time 9	
				Dri 9	
				Ran 4.5	
				Rec 4.4	
				Loss 0	
				TI Depth 9.2	
				TP Depth 9.4	
				SLS. sa., s. m. hd., m-dk. gr. hor. pgs. ve bkn. 7.0 - 8.5	
				CLS/SLS interbedd., s. m. hd., m-dk. gr. sa lens 10.2 - 10.7 hvy. cl wa on shy pgs 12.3 - 13.4	
				cont	

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PROJECT BALLIPOLIS Locks + DAM HOLE NO. R-85/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497A		Hole No. R85/1	
PROJECT GALLIPOLIS Lock & Dam			INSTALLATION ORH-CD		SHEET 2 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull #3 START - 9:55 End 10:06 Time 11 Dr/ 11 Ran 4.1 REC 4.4 LOSS 0
	11				10.8	
	12					
	13				4	
	14					TI Depth 13.5 TP Depth 13.6
483.4					14.4	Pull #4 START 10:10 End 10:18 Time 8 Dr/ 8 Ran 5.2 REC 4.9 LOSS 0
	15		SS. - silty, silty, m. hd., m. gr hor. cl. coa. ply. @ 16.0			
480.9	16					
	17		SLS., sa., s. m. hd. n. dk. gr. hor ply. @ 17.0 & 17.5 grading with depth		5	
	18					
478.7					18.2	
	19		CLS/SLS interbdd. s.m. hd., m. dk. gr occ. sil pfq in CLS			TI Depth 18.5 TP Depth 18.7
	20				6	Pull #5 START 10:21 END 10:30 Time 9 Dr/ 9 Ran 4.6 REC 4.6 LOSS 0
	21					
	22				21.9	

ENG FORM  
JUN 67 1836-A

GPO 1965 OF-329-243

PROJECT  
GALLIPOLIS Locks & Dam

HOLE NO  
R85/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		497.9		Hole No. 285/1	
PROJECT		INSTALLATION		SHEET 3		OF 4 SHEETS	
GALLIPOLI Lock + DAM		ORH-CD					
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
425.3	22						
	23		ICK-gr. - n.br., S.m. hd., SIX. Trans. 22.6-26.0		7	TI Depth 23.1 TP Depth 23.3 Pull # 6 START 10:35 End 10:46 Time 11 Drl 11 Ran 4.2 REC 4.9 LOSS 0	
	24						
	25				25.3		
	26						
	27				8		
	28					TI & TP Depth 27.5 Pull # 7 START 10:51 End 10:59 Time 8 Drl 8 Ran 4.8 REC 4.7 LOSS 0	
	29				29.0		
	30						
	31				9		
	32					TI Depth 32.2 TP Depth 32.3 Pull # 8 START 11:04 END 11:12 Time 8 Drl 8 Ran 3.5 REC 3.5 LOSS 0	
	33				32.6		
	34		cont.		10		

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-222-243

PROJECT

GALLIPOLI Lock + DAM

HOLE NO.

285-1



Page 168

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET		
GALLIPOLIS Locks + Dam			DEH-CD	2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
486.2	10		CLS, shy, S., vs bkn., m.-dk.gr.			Pull #3 START 12:01 End 12:11 TIME 10 Dr1 10 Ran 5.0 REC 5.0 Loss 0 UNACC 0
	11				11.1	
	12					
483.6	13		SS, Sly., fig., m. hd., m. gr. near hor. ply. w/tr. cl. coa @ 13.9 grading more sly w/depth		4	
	14					
	15					
481.2			CLS/SLS interbdd, S.-m. hd., m.-dk.gr bkn. along vert frac 15.9 - 16.6 OVER CORED @ 17.5 SLS 17.5 - 19.1		5	Pull #4 START 12:14 End 12:25 TIME 11 Dr1 11 Ran 5.2 REC 5.0 Loss 0 UNACC 0
	16					
	17					
	18					
477.4	19		CLS, shy, S.-m. hd., m. dk. gr. cl. coal/ld. hor pty. 0.9 L.H. Ltw 19.4 @ 22.4			TI Depth 19.4 TD Depth 19.4
	20				6	Pull #5 START 12:33 End 12:45 TIME 12 Dr1 12 Ran 4.0 REC 3.1 Loss 0.9 UNACC 0
	21					
	22				21.7	End

ENG FORM  
JUN 67 1836-A

GPO: 1965 O-7-329-243

PROJECT

GALLIPOLIS Locks + Dam

HOLE NO.

R-85 1/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 12-B5/2		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
6ALLI POLIS Lock + DAM		ORH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
474.2	22					
	23		ICC. r.bn, s.m. hd., SILK 1.8 L.C. btwn 27.5 & 31.8			TI Depth 23.4 TP Depth 23.6 Pull #6 START 12.55 End 1:03 TIME 8 Dri 8 Ran 3.9 REC 4.1 LOSS 0 UNACC 0
	24					
	25					
	26					
	27					
	28					TI & TP Depth 27.5 Pull #7 START 1:10 End 1:21 TIME 11 Dri 11 Ran 4.3 REC 2.5 LOSS 0 UNACC 0
	29					
	30					
	31					
464.7	32					TI & TP Depth 31.8
	33					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-325-243

PROJECT 6ALLI POLIS Lock + DAM  
HOLE NO. B5/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>		<b>ORD</b>		<b>DEH-CD</b>		<b>SHEET 1 OF 4 SHEETS</b>	
2. LOCATION (Coordinate or Station) <b>MOND P-86 STA 11+73 "A"</b>				10. SIZE AND TYPE OF BIT <b>1 1/2"</b>			
3. DRILLING AGENCY <b>W. G. JACQUES</b>				11. DATUM FOR ELEVATION SHOWN (TBM = BM) <b>M. S. L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-86/1</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
5. NAME OF DRILLER <b>STEVE FRYE</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>10</b>			
7. THICKNESS OF OVERBURDEN <b>0-498.2</b>				15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>34.2</b>				16. DATE HOLE STARTED <b>9-27-89</b> COMPLETED <b>9-27-89</b>			
9. TOTAL DEPTH OF HOLE <b>464</b>				17. ELEVATION TOP OF HOLE <b>498.2</b>			
				18. TOTAL CORE RECOVERY FOR BORING <b>34.2</b>			
				19. SIGNATURE OF INSPECTOR <b>JET</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
498.2	1		CLS-shy., S.-m. hd., m. dk gr. o.s. w.c. btwn 0.0 & 4.6		1	Pull #1 START 12.22 End 12.30 TIME 8 Dri 8 Ran — REC 4.1 LOSS 0.5 UNACC 5	
	2						
	3				3.6		
	4						
	5				2	TI Depth 4.6 TP Depth 4.9	
498.0	6		SS.-sly., fig., m. hd., m. gr. irr. o., t. 5.4-9.4			Pull #2 START 12.37 End 12.46 Time 9 Dri 9 Ran — REC 4.8 LOSS 0 UNACC 0	
	7				7.3		
	8						
	9				3		
488.8	10					TI & TP Depth 9.4	
			cont.				

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PROJECT **GALLIPOLIS LOCK + DAM** HOLE NO. **R-86/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R86/1		
PROJECT		INSTALLATION		SHEET		
6ALLIPOLIS Lock & DAM		ORH-CD		1 of 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS/SLS inter bdd. s.-m. hd., m.-dk. gr 0.3 LC. btwn 11.0 & 11.9 SILK @ top. of sa. len. @ 11.9 ve bkn. 13.6-15.2			Pull # 3 START 12:49 End 12:57 Time 8 Dr1 8 Ran REC 3.9 LOSS 0.3 UNACC 0
	11				11.0	
	12				4	
	13					
	14					TI Depth 13.6 TP Depth 13.7
483	15				14.8	Pull # 4 START 1:04 End 1:15 Time 11 Dr1 11 Ran REC 4.8 LOSS 0 UNACC 0
482	16		ss.-sly. fig. m. hd., m. gr. sli. wea. 80° o.t. 15.2-15.8 0 frac. 15.9-16.2			
	17		SLS.-sa, m. hd., m.-dk. gr. grading		5	
	18					
	19				18.4	TI Depth 18.4
	20				6	TP Depth 18.9
477.6	21		CLS. sly., s. m. hd., m.-dk. gr. p'tgs. shy			Pull # 5 START 1:24 End 1:35 Time 11 Dr1 11 Ran REC 4.1 LOSS 0 UNACC 0
	22					

ENG FORM 1836-A  
JUN 67

GPO: 1968 OF-329-245

PROJECT

6ALLIPOLIS Lock & DAM

HOLE NO.

R-86/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		498.1		Hole No. P-86/1	
PROJECT		INSTALLATION		SHEET 3		OF 4 SHEETS	
GALLIPOLIS LOCK + DAM		ORH-C-D					
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	22				22.1		
	23		ICC, rbr, s.m. hd, 5lk		7	T1 & TP depth 22.5 Pull # 6 START 1:42 End 1:51 Time 9 Dri 9 Ran — REC 5.2 LOSS 0 UNACC 0	
	24						
	25				25.5		
	26						
	27				8		
	28					T1 & TP depth 27.7 Pull # 7 START 2:00 End 2:08 Time 8 Dri 8 Ran — REC 4.9 LOSS 0 UNACC 0	
	29				29.0		
	30						
	31				9		
	32					T1 Depth 32.6 TP Depth 32.8 Pull # 8 START 2:20 End 2:42 Time 22 Dri 22 Ran — REC 2.8 LOSS 0 UNACC 0	
	33				32.6		
	34				10		

ENG FORM 1836-A  
JUN 67

GPO: 1968 OF-319-245

PROJECT GALLIPOLIS LOCK + DAM, HOLE NO. R-86/1



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		SHEET 7	
2. LOCATION (Coordinates or Station)		GALLIPOLIS Locks + Dam		10. SIZE AND TYPE OF BIT 4x5 1/2"		OF 3 SHEETS	
3. DRILLING AGENCY		MONO R-86 1STA 12+0.3		11. DAYUM FOR ELEVATION SHOWN (TBM or MSL)		MSL	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACQUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		R-86/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		STEVE FRYE		14. TOTAL NUMBER CORE BOXES		9	
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		0-495.7		16. DATE HOLE		STARTED 10-3-89 COMPLETED 10-3-89	
8. DEPTH DRILLED INTO ROCK		32.9		17. ELEVATION TOP OF HOLE		495.7	
9. TOTAL DEPTH OF HOLE		464		18. TOTAL CORE RECOVERY FOR BORING		32.4 %	
				19. SIGNATURE OF INSPECTOR		JET	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
495.7	1		CLS.; sly., sh., s.m. hd., m. dk. gr. ve. s., bkn. 3.7-4.3			Pull #1 START 8:30 End 8:40 TIME 10 Dri 10 Ran 5.0 REC 3.7 LOSS 0 UNACC 0
	2				1	
	3					
	4				3.6	TI Depth 3.7
491.4	5		CLS., sa., s.m. hd. m. dk. gr.			
490.7	6		SS. - sly., f.g., m. hd., m. gr.		2	TP Depth 5.0 Pull #2 START 8:46 End 8:57 TIME 11 Dri 11 Ran 3.9 REC 5.2 LOSS 0 UNACC 0
489.3	7		CLS/SLS. interbedd., s.m. hd., m. dk. gr. CLS. ptg. sh. 50' SLS 7.8-8.6; 10.7-11.2		7.0	
	8				3	
	9					TI & TP Depth 8.9
	10					Pull #3
			(CONT)		(CONT)	cont

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PROJECT HOLE NO.  
GALLIPOLIS Lock + Dam R-86/2

## ELEVATION TOP OF HOUSE

495.7

Hole No. P-86/2

PROJECT

GALLIPOLI'S Lock + Dam

## INSTALLATION

ORH-CD

SHEET 4  
OF 3. SHEET

ENG FORM 1836-A  
JUN 67

GPO 1949 OF-328-24

PROJECT

GALLIPOLIS LACK + DIRM

HOLE NO	
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2-864

PROJECT		INSTALLATION		SHEET		
6ALLIPOH'S LOCK + DAM		ORH-CD		3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		Ich. - n. br., s. m. hd., bkn., s/k			
	23				7	
						Ti & TP Depth 23.4
						Pull # 6
						START 10:02
						END 10:12
						Time 10
						Dr 10
						Ran 5.2
						Rec 5.2
						Loss 0
						Unacc 0
	24					
	25				25.1	
	26					
	27					
	28				8	
	29					
						Ti & TP Depth 28.6
						Pull # 7
						START 10:19
						END 10:31
						Time 12
						Dr 12
						Ran 5.8?
						Rec 3.8
						Loss 0
						Unacc 0
	30				9	
	31					
	32					
464			Bottom Hole		32.4	Ti Depth 32.4
	33					
	34					TP Depth 34.3

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT 6ALLIPOH'S LOCK + DAM HOLE NO. R-86 1/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
PROJECT <b>GALLIPOLIS Locks + DAM</b>		<b>ORD</b>		<b>DPH-CD</b>		<b>R-8711</b>	
LOCATION (Coordinate or Station) <b>MONO R-87 STA 15+53.1A"</b>		DATE <b>9-28-89</b>		SHEET <b>OF 3 SHEETS</b>			
DRILLING AGENCY <b>W. G. JACQUES</b>		MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>		TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b>	
HOLE NO. (As shown on drawing title and file number) <b>R-8711</b>		TOTAL NUMBER CORE BOXES <b>10</b>		ELEVATION GROUND WATER <b>N/A</b>		DATE HOLE <b>9-28-89</b>	
NAME OF DRILLER <b>STEVE FRYE</b>		DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DES. FROM VERT.		ELEVATION TOP OF HOLE <b>497.4</b>		TOTAL CORE RECOVERY FOR BORING <b>33.5</b>	
THICKNESS OF OVERBURDEN <b>0 - 497.4</b>		DEPTH DRILLED INTO ROCK <b>33.5</b>		TOTAL DEPTH OF HOLE <b>464</b>		SIGNATURE OF INSPECTOR <b>JET</b>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.4	1		CLS.-sly., S. m. hd., m.-dk gr, w/occ. sa. len.: 0.4 L.C. btwn 0.0 & 4.6		1	Pull # 1 START 8:06 End 8:14 Time 8 Drl 8 Ran 4.9 REC 4.2 LOSS 0.4 UNACC	
492.6	4				3.8	T1 Depth 4.6 TP Depth 4.9	
490.7	5		SS.-sly., fig., m. hd., m. gr. w/occ. SIS, lam.		2	Pull # 2 START 8:25 End 8:31 Time 6 Drl 6 Ran 4.0 REC 4.6 LOSS 0.5 UNACC	
	7		Interbedd. SLS./CLS. S.-m. hd., m.-dk. gr. SLS occ. sa., CLS. shy. 0.5 L.C. btwn 6.7. & 8.7 sa., m. hd. 8.7 - 11.0: CLS. 11.7 - 14.6		7.7	T1 Depth 8.7? TP Depth 9.7	
	8				3		
	9						
	10						

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PROJECT **GALLIPOLIS Lock + DAM** HOLE NO. **R-8711**



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6ALLI POLIS Lock + DAM		ORH-CD		2 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull # 3
	11				10.7	START 8:35 End 8:46 TIME 11 Drl 11 Ran 7.0? Rec 4.6 Loss 0 Unacc 0
	12					
	13				4	
	14					TI Depth 14.3
482.8						
	15		SS., sly., fig., m. hd. m. gr. w/ thin, dk. sly lam. & cl coa. pf, s. sly. ptg. @ 15.8; vent., irr.; t. 15.8-16.1; grading into		15.4	TP Depth 15.9
	16					Pull # 4
480.6						START 8:50 End 8:59 TIME 9 Drl 9 Ran 3.8 REC 5.1 LOSS 0 Unacc 0
	17		SLS., sa., s.-m. hd., m. dk. gr.		5	
	18					
	19				19.2	TI Depth 19.4
479.2						TP Depth 19.7
	20		CLS., m.-dk. gr, s.-m. hd occ. shy. sly. m. hd. 22.6-24.5			Pull # 5
	21				6	START 9:15 End 9:29 TIME 14 Drl 14 Ran 4.9 REC 5.1 LOSS 0
	22					LOSS 0 Unacc 0

ENG FORM 1836-A  
JAN 67

GPO 1965 OF-329-245

PROJECT HOLE NO.  
6ALLI POLIS Lock + DAM R-87/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		497.4		Hole No. R-871	
PROJECT		INSTALLATION		SHEET		OF 3 SHEETS	
6ALLIPOLIS Lock + DAM		OEH-CD					
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	22					Pull # 5	
					22.6		
	23						
	24						
492.9					7	TI Depth 24.5 TP Depth 24.6 Pull # 6	
	25		ICL. - r. br., s. m. hd. silk. 0.1 L.C. btwn. 24.5 & 28.3			START 9.33 End 9.45 Time 12 Drl 12 Ran 3.9 REC 4.7 LOSS 0.1 UNACC 0	
	26				26.3		
	27						
	28				8		
						TI Depth 28.3 TP Depth 28.4	
	29					Pull # 7	
	30					START 9.55 End 10.06 Time 11 Drl 11 Ran 5.3 REC 5.2 LOSS 0 UNACC 0	
	31				9		
	32						
	33						
464			Bottom Hole		33.5	TI Depth 33.5 TP Depth	
	34						

ENG FORM 1836-A JUN 67

GPO 1969 OF-229-243

PROJECT 6ALLIPOLIS Lock + DAM HOLE NO. R-871

DRILLING LOG		PROJECT		INSTALLATION		Hole No. <u>R-8716</u>	
		<u>ORD</u>		<u>ORHCP</u>		SHEET <u>1</u> OF 3 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK + DAM</u>				10. SIZE AND TYPE OF BIT <u>4 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MONO R-87 STA 12+43 "A"</u>				11. DATUM FOR ELEVATION SHOWN (TBM or BBL)			
3. DRILLING AGENCY <u>W. G. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-8716</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>STEVE FRYE</u>				14. TOTAL NUMBER CORE BOXES <u>9</u>		15. ELEVATION GROUND WATER <u>0</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED <u>9-29-89</u> COMPLETED <u>9-29-89</u>			
7. THICKNESS OF OVERBURDEN <u>0-496.3</u>				17. ELEVATION TOP OF HOLE <u>496.3</u>			
8. DEPTH DRILLED INTO ROCK <u>32.3</u>				18. TOTAL CORE RECOVERY FOR BORING <u>32.3</u>			
9. TOTAL DEPTH OF HOLE <u>464</u>				19. SIGNATURE OF INSPECTOR <u>JET</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.3	1		CLS.-sly. s.m. hd., m.-dk gr. w/ bcc. sa. lens			Pull #1	
	2				1	START 12.25 End 12.32 Time 7 Drl 7 Ran 5.0 REC 4.6 Loss 0 UNACC 0	
492.6	3						
	4		SS.-sly, f.g., m. hd., m.gr. w/ thin, dark. SLKS, & lam; bcc. + q. along SLK/lam		3.7	TI Depth 4.6	
	5					TP Depth 5.0	
	6				2	Pull #2	
	7					START 12.38 End 12.49 Time 11 Drl 11 Ran 4.7 REC 5.2 Loss 0 UNACC 0	
489	8		CLS./SLS inter. bdd, s.-m. hd., m.-dk. gr. ve. bccn		7.3		
	9		7.2-9.8: SLS.-9.8-11.7 shy. CLS 11.7-12.2. w/o.2. LC		3		
	10					TI Depth 9.8 TP Depth 9.9	

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PROJECT Gallipolis Locks + Dam HOLE NO. R-8716

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock+Dam		ORH-CD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		CLS/SLS			Pull #3
						START 12:55
						END 1:06
	11				10.5	TIME 11
						Drl 11
						Ran 4.0
						REC 3.9
						LOSS 0
484.1	12					UNACC 0
			SLS - m-dk. gr., s. m. hd. pts. shy interbdd w/CLS.		4	
	13					
	14				13.9	TI & TP Depth 13.9
						Pull #4
						START 1:10
						End 1:18
	15					TIME 8
						Drl 8
						Ran 4:5
						REC 4:3
	16				5	LOSS 0
						UNACC 0
479.2	17					
			SLS m-dk. gr., s. m. hd. pts. shy, interbdd w/CLS.		17.7	
	18					TI Depth 18.2
						TP Depth 18.4
						Pull #5
	19					START 1:25
						End 1:37
						TIME 12
					6	Drl 12
	20					Ran 4.5
						REC 4.3
						LOSS 0
	21					UNACC 0
					21.4	
	22				7	
			cont			

ENG FORM 1836-A  
JUN 67

GPO 1969 O7-229-245

PROJECT GALLIPOLIS Lock+Dam  
HOLE NO. R-87/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.			
PROJECT		INSTALLATION		SHEET			
6ALLIPOLIS Lock + DAM		ORH-CD		3 OF 3 SHEETS			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	22		ICC. r.br., s.m. hd. ve brn. below 25.1		7	T1 & TP Depth 22.7 Pull #6 START 1:45 End 1:52 Time 7 Drl 7 Ran 4.9 REC 5.2 LOSS 0 UNACC 0	
	23						
	24						
	25				25.1		
	26						
	27				8		
	28						T1 & TP Depth 27.6 Pull #7 START 2:10 End 2:23 Time 13 Drl 13 Ran 4.8 REC 4.9 LOSS 0 UNACC 0
	29				28.7		
	30						
	31				9		
	32						
464			Bottom Hole		32.3	T1 Depth 32.3 TP Depth 32.9	

<b>DRILLING LOG</b>		<b>DIVISION</b>		<b>INSTALLATION</b>		<b>Form No.</b>	
PROJECT <b>GALLIPOLIS Lock + DAM</b>		<b>DRD</b>		<b>DRH-1D</b>		<b>100811</b>	
LOCATION (Coordinates or Section) <b>MONO R-88 LSTA 12+53.4</b>		DATE AND TYPE OF BIT <b>MS.L.</b>		DATE FOR ELEVATION BROWN (Type of Ink)		SHEET OF SHEETS	
DRILLING AGENCY <b>W. E. JACOBS</b>		MANUFACTURER'S DESIGNATION OF DRILL <b>R- MOBIL</b>		TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
HOLE NO. (As shown on drawing title and file number) <b>R-88/1</b>		TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		<b>N/A</b>		<b>N/A</b>	
NAME OF DRILLER <b>STEVE FRYE</b>		TOTAL NUMBER CORE BOXES		<b>10</b>		ELEVATION GROUND WATER	
DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		DATE HOLE		STARTED <b>9/29/89</b>		COMPLETED <b>9/29/89</b>	
THICKNESS OF OVERBURDEN <b>0' 497.5</b>		ELEVATION TOP OF HOLE		<b>497.5</b>		TOTAL CORE RECOVERY FOR BORING	
DEPTH DRILLED INTO ROCK <b>33.9</b>		TOTAL CORE RECOVERY FOR BORING		<b>33.6</b>		SIGNATURE OF INSPECTOR <b>JET</b>	
TOTAL DEPTH OF HOLE <b>463.6</b>							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5	1		CLS.-s.m.hd. m.-dk.gr. w/occ sly/sa lam.		1	Pull # 1 START 10:45 End 10:57 Time 12 Dr 12 Ran REC 4.6 LOSS 0 UNACC
	2					
	3					
	4				36	
	5					TI Depth 4.6
	6				2	TP Depth 5.4
491.5	7		SS.-sly., f.g. n.l. hd., m.gr. 0.3 CLS. len. @ 9.0-9.3; 0.4 CLS len @ 9.8-10.2. (0.2 L.C.)		7.3	Pull # 2 START 11:07 End 11:18 TIME 11 Dr 11 Ran REC 4.7 LOSS 0 UNACC 0
	8					
	9				3	
	10					TI Depth 9.3 TP Depth 9.4 Pull # 3

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PROJECT **GALLIPOLIS Lock + DAM** HOLE NO. **R-88/1**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS Lock + DAM			ORH-CD		2	
OF 3 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10					Pull # 3 START 11.22 END 11.31 TIME 9 Dr1 9 RAN - REC 3.0 LOSS 0.2 UNACC
485.4	12				10.7	
	11					
	13		SLS - cly. s. m. hd., m. - dk. gr.		4	TI & TP Depth 12.5 Pull # 4 START 11:37 END 11:41 TIME 4 Dr1 4 RAN REC 2.9 LOSS 0 UNACC
483.2	14				14.3	
	15		SS - sly., fig., m. hd., m. gr. occ. ptg along Sly. lam. grading into			TI Depth 15.4 TP Depth 15.5 Pull # 5 START 12.21 END 12.29 TIME 8 Dr1 8 RAN REC 4.6 LOSS 0 UNACC
	16				5	
480	17					
	18		SLS. S. - m. hd., m. dk. gr		17.9	
478	19					
	20		CLS. s. m. hd., m. dk. gr. 0.6 LC. btwn 20.2 24.4		6	TI Depth 20.2 TP Depth 20.4 Pull # 6 START 12:37 END 12:50 TIME 13 Dr1 13
	21				21.5	
	22					

ENG FORM  
JUN 67 1836-A

GPO: 1969 OF-329-243

PROJECT  
GALLIPOLIS Lock + DAM

HOLE NO.  
R-8811

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
GALLIPOLIS Lock + DAM		ORH-CD		RBB/1		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					Ran
						REC 3.6
						LOSS 06
	23					UNACC
	24					
473.1						
						TI Depth 24.4
						TP Depth 24.5
	25		ICC - r. br., s. m. hd. s.l.k.			Pull # 7
						START 1:00
						End 1:11
						Time 11
	26					Drl 11
						Ran
						Rec 4.6
						LOSS 0
						UNACC 0
	27					
	28					
	29					
						TI Depth 29.0
						TP Depth 29.1
	30					Pull # 8
						START 1:15
						End 1:28
						Time 13
						Drl 13
	31					Ran
						Rec 4.6
						LOSS 0
						UNACC 0
	32					
	33					
464			Bottom HOLE			TI Depth 33.6
						TP Depth 33.9

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-328-243

PROJECT

GALLIPOLIS Lock + DAM RBB/1

HOLE NO.



<b>DRILLING LOG</b>		Division <b>ORD</b>		INSTALLATION <b>ORH-CD</b>		Note No. <b>10012</b>	
1. PROJECT <b>GALLIPOLIS Locks + DAM</b>				2. SIZE AND TYPE OF BIT <b>4" YSA</b>			
2. LOCATION (Coordinates or Station) <b>MONO R-88 STA 12+83 "A"</b>				11. DAYUM FOR ELEVATION SHOWN (TBM or BM) <b>M.S.L</b>			
3. DRILLING AGENCY <b>W. G. JAGUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R88/V R-88/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER <b>STEVE FRYE</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <b>9/29/89</b>		16. DATE HOLE <b>9/29/89</b>	
7. THICKNESS OF OVERBURDEN <b>0 - 497.8</b>				17. ELEVATION TOP OF HOLE <b>497.8</b>		17. ELEVATION TOP OF HOLE <b>497.8</b>	
8. DEPTH DRILLED INTO ROCK <b>33.8</b>				18. TOTAL CORE RECOVERY FOR BORING <b>33.8</b>		18. TOTAL CORE RECOVERY FOR BORING <b>33.8</b>	
9. TOTAL DEPTH OF HOLE <b>464</b>				19. SIGNATURE OF INSPECTOR <b>JET</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1		CLS/SLS interbdd. s.m hd., m.-dk. gr. 0.3 L.C. bfw n 0.0. & 4.5		1	<b>Pull #1</b> START 9:20 End 9:28 Time 8 Dri 8 Ran 4.9 Rec 4.2 Loss 0.3 Unacc - 0
	2					
	3					
	4					
493	5		SS., sly. f. g., m. hd. gr.			<b>TI Depth 4.5</b> <b>TP Depth 4.9</b> <b>Pull #2</b> START 9:35 End 9:46 Time 11 Dri 11 Ran 4.6 Rec 5.0 Loss 0 Unacc 0
491.8	6		CLS., sly. m. hd., m. dk gr., shy		2	
	7					
	8					
	9				3	
488.0	10					<b>TI &amp; TP Depth 9.5</b>

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PROJECT  
**GALLIPOLIS Locks + DAM**

HOLE NO.  
**R-88/2**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	497.8		Hole No. R88/2	
PROJECT			GALLI POLIS LOCK + DAM		INSTALLATION		ORH-CD
ELEVATION			DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)							
485.5	10				GLS - Sa. m. hd., m. dk. gr. CLS. 11.0 - 11.6		
	11						
	12						
	13				CLS - Sly., shy., S. m. hd., m. - dk. gr.		
483.8	14						
	15				SS - Sly. f. g., m. hd., m. gr. bkn (mach.) 14.0 - 14.5 near hor. cl. coa. ptgs. @ 15.1, 15.8; 16.0; 16.2; grading		
	16						
481.0	17				SLS - Sa, S. m. hd., m. dk. gr.		
480.0	18				CLS - S. m. hd., shy., m. - dk. gr. Sa. zo. 18.4 - 19.3 0.2 LC. at wn. 19.4 ± 22.7		
	19						
	20						
	21						
	22						

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-229-245

PROJECT

GALLI POLIS LOCK + DAM R-88/2

HOLE NO.

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.	
PROJECT		INSTALLATION		SHEET	
6 GALLI POLI'S LOCKS + DAM		ORH-CD		3 OF 3 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOY. EST.	BOX OR SAMPLE NO.
a	b	c	d	e	f
474.0	22				
	23				
	24		ICL. r.br., s.m. hd., bkn., slk.		
	25				
	26				
	27				
	28				
	29				
	30				
	31				
	32				
	33				
464			BOTTOM HOLE		

REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
7	TLE TP Depth 22.7 Pull # 6 START 10:40 END 10:45 TIME 5 DRI 5 RAN 2.5 REC 2.4 LOSS 0 UNACC 0
8	25.0 TI Depth 25.1 TP Depth 25.2 Pull # 7 START 10:51 END 11:00 TIME 9 DRI 9 RAN 4.2 REC 3.5 LOSS 0 UNACC 0
9	28.1 TI Depth 28.6 TP Depth 29.4 Pull # 8 START 11:15 END 11:28 TIME 13 DRI 13 RAN 4.6 REC 3.8 LOSS 1.4 UNACC 0
10	33.8 TI Depth 33.8 TP Depth 34.0

ENG FORM 1836-A JUN 67

GPO 1965 OF-329-242

PROJECT 6 GALLI POLI'S LOCKS + DAM HOLE NO. R-88/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		ORD		ORH-CD		OF 3 SHEETS	
1. LOCATION (Coordinate or Station)		6 ALLI POLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" X 1 1/2"	
2. DRILLING AGENCY		MONO R-89 STA 12+93.9		11. DAYTIME FOR ELEVATION ABOVE (FEET or METERS)		M.S.L.	
3. HOLE NO. (As shown on drawing title and file number)		R89-1 R 89/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
4. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
6. THICKNESS OF OVERBURDEN		0 497.6		15. ELEVATION GROUND WATER		N/A	
7. DEPTH DRILLED INTO ROCK		33.4		16. DATE HOLE		STARTED 9-28-89 COMPLETED 9-29-89	
8. TOTAL DEPTH OF HOLE		464		17. ELEVATION TOP OF HOLE		497.6	
9. SIGNATURE OF INSPECTOR		David Nye		18. TOTAL CORE RECOVERY FOR BORING		33.4 %	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	1		CLS - S.m.hd., m.dk.gr 0.3 LC. btwn 0.0 & 4.6			Pull #1	
	2					START 2:15	
	3					End 2:24	
	4					Time 9	
	5					Drl 9	
	6					Ran 4.6	
	7					REC 4.3	
	8					Loss 0	
	9					Unacc	
493	5		SLS - S.m.hd., m.dk.gr Ch. len 0.4 LC. 5.2 - 5.3		1	TI & TP Depth 4.6	
492	6		S.S. sly., f.g., m.hd., m.gr. 45° ptg @ 7.5. SILK Cor. rec @ 8.7		2	Pull #2	
	7					START 2:30	
	8					End 2:39	
	9					Time 9	
	10					Drl 9	
	11					Ran 4.8	
	12					REC 4.7	
	13					Loss 0	
	14					Unacc	
488.9	9		CLS / SLS interbedd. S. m. hd. m. dk.gr 0.4 LC. btwn 9.3 & 12.5		3	TI Depth 9.3 TP Depth 9.4	

ENG FORM 1836  
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PROJECT  
6 Allipolis Lock & Dam  
HOLE NO.  
R-89/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		497.6		Hole No. R 89/1	
PROJECT		INSTALLATION		SHEET		OF 3 SHEETS	
6ALLIPOLIS LOCK & DAM		ORH-CD		2		3	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	10		CLS/SLS			Pull #3	
						START 2:42	
						End 2:49	
	11					TIME 7	
					11.3	Drl 7	
						Ran 4.2	
	12					REC 3.8	
						LOSS 0.4	
						UNACC 0	
	13				4		
						TI Depth 13.5	
						TP Depth 13.6	
	14					Pull #4	
						START 2:52	
						End 3:01	
482.9						TIME 9	
						Drl 9	
	15		SS. ve. sly. fig. m. hd., m. gr.		15.1	Ran 4.1	
						REC 4.2	
	16					LOSS 0	
481.2						UNACC 0	
	17		CLS.   SLS. interbdd; S. m. hd., m. dk. gr. Cl. coa.   fld., ptgs.; SLS. occ. sa		5		
						TI & TP Depth 17.7	
	18					Pull #5	
						START 7:27	
						End 7:36	
	19				18.8	TIME 9	
						Drl 9	
						Ran 4.1	
	20					REC 4.1	
						LOSS 0	
477.1						UNACC 0	
	21		CLS - sly. S. m. hd. m. dk. gr.		6		
						TI & TP Depth 21.8	
	22						

ENG FORM 1836-A

GPO. 1969 OF-329-243

PROJECT 6ALLIPOLIS LOCK & DAM HOLE NO. R 89/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 ALLIPOLIS LOCK & DAM		OPH-CD		3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22				22.3	Pull # 6 START 7:40 End 7:48 TIME 8 Dr 1 8 Ran 3.9 REC 3.2 LOSS 0 UNACC 0 TI Depth 23.6 TD Depth 23.9
474	23					
	24		ICL. - s. m. hd., sIK, r. br. bkn		7	Pull # 7 START 7:52 End 8:02 TIME 10 Dr 1 10 Ran 0.1 REC 2.4 LOSS 0 UNACC 0 TI & TP Depth 26.0
	25					
	26				25.8	
	27				8	Pull # 8 START 8:12 End 8:20 TIME 8 Dr 1 8 Ran 3.9 REC 3.2 LOSS 0
	28					
	29				28.4	
	30					TI & TP Depth 29.2 Pull # 9 START 8:25 End 8:37 TIME 12 Dr 1 12 Ran 5.0 REC 1.5 LOSS 0
	31				9	TI & TP Depth 30.1 Pull # 10 START 8:40 End 8:49 TIME 9 Dr 1 9 Ran -0.5? REC 1.3 LOSS 1.4
	32					
	33					
464	34				33.6	TI Depth 33.6 TP Depth 34.4

ENG FORM  
JUN 67 1836-A

GPO 1969 OF-328-242

PROJECT  
6 Allipolis Lock & Dam R 89/1

HOLE NO.

<b>DRILLING LOG</b>		<b>DIVISION</b> ORD		<b>INSTALLATION</b> ORH-CD		<b>SHEET</b> 1 OF 3 SHEETS	
<b>1. PROJECT</b> GALLIPOLIS LOCK + DAM				<b>10. SIZE AND TYPE OF BIT</b> 4 1/2 IN			
<b>2. LOCATION (Coordinate or Station)</b> MDNO - R-89 STA 13+23 "A"				<b>11. SAYUM FOR ELEVATION SHOW (True or Real)</b> M.S.L.			
<b>3. DRILLING AGENCY</b> W. G. JAGUES				<b>12. MANUFACTURER'S DESIGNATION OF DRILL</b> B-53 MOBILE			
<b>4. HOLE NO. (As shown on drawing title and file number)</b> R-89 1/2				<b>13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN</b> N/A		<b>UNDISTURBED</b> N/A	
<b>5. NAME OF DRILLER</b> STEVE FRYE				<b>14. TOTAL NUMBER CORE BOXES</b> 9		<b>15. ELEVATION GROUND WATER</b> N/A	
<b>6. DIRECTION OF HOLE</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				<b>16. DATE HOLE</b> STARTED 10-5-89 COMPLETED 10-6-89			
<b>7. THICKNESS OF OVERBURDEN</b> 0 - 498				<b>17. ELEVATION TOP OF HOLE</b> 498.1			
<b>8. DEPTH DRILLED INTO ROCK</b> 34.1				<b>18. TOTAL CORE RECOVERY FOR BORING</b> 34.1 %			
<b>9. TOTAL DEPTH OF HOLE</b> 464				<b>19. SIGNATURE OF INSPECTOR</b> JET			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
498.0	1		CLS. S. m. hd., m. -dk. gr. 1.4 LC 0.0 - 4.9			Pull #1  START 1:12 End 1:20 Time 8 Drl 8 Ran 5.0 REC 3.5 LOSS 1.4 Unacc 0
492.8	5				1	
	6		SLS - s/l. sa., s. m. hd., m. -dk. gr.			
491.1	7				2	
	8		CLS/SLS. interbdd., s. m. hd., m. -dk. gr 0.3 L.C. btwn 7.0 & 9.8			
	9				3	
	10					

4.9 TL Depth 4.9  
TP Depth 5.0  
 Pull #2  
 START 1:28  
 End 1:38  
 Time 10  
 Drl 10  
 Ran 4.9  
 REC 4.6  
 LOSS 0.3  
 UNACC 0  
 8.7  
TL Depth 9.5  
TP Depth 9.9

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PROJECT HOLE NO.  
GALLIPOLIS LOCK + DAM R 89/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		498.0		Hole No. R89/2	
PROJECT		INSTALLATION		SHEET		OF 3 SHEETS	
GALLIPOLIS Lock + DAM		ORH-CD		2		3	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	10					Pull # 3	
	11				3	START 1:48 End 1:53 Time 5 Dri 5 Ran 4.1 REC 4.5 LOSS 0 Unacc 0	
	12				12.4		
	13						
	14				4	TI Depth 14.0 TP Depth 14.3	
483.2	15		SS - sly. f.g. m. hd. m. gr. ; o. irr. jt 15.3 - 15.7 grading			Pull # 4	
482.4					15.7	START 2:01 End 2:12 Time 11 Dri 11 Ran 5.5 REC 4.5 LOSS 0.7 Unacc 0	
	16		SLS - sli. sd., s.m. hd. m. dk. gr. o.7. LC. btwn 14.3 & 19.5 prob. @ top of run.				
	17				5		
	18						
	19						
478.6	20		CLS - s.-m. hd. m. - dk. gr., w/sly. lenses, bkn. sin 0.4 L.C. btwn 19.5 & 23.8		19.9	TI & TP Depth 19.5	
	21					Pull # 5	
	22				6	START 2:19 End 2:30 Time 11 Dri 11 Ran 4.4 Rec 3.9 LOSS 0.4 Unacc 0	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-245

PROJECT

GALLIPOLIS Lock + DAM

HOLE NO.

R-89/2



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6ALLIPOLIS Lock + Dam		ORH-CD		3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	DOF SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22				6	
	23					TI Depth 23.2
474.3					23.8	TP Depth 23.9
	24		ICC. r. br., S. m. hd., bkn. slk			Pull # 6 START 2:40 End 2:57 Time 17 Drl 17 Ran 5.5 REC 52 LOSS 0 UNACC 0
	25				7	
	26					
	27				27.6	
	28					
	29				8	TI Depth 29.0
						TP Depth 29.4
						Pull # 7 START 7:35 END 7:47 TIME 12 Drl 12 Ran 1.5 REC 11.9 LOSS 0 UNACC 0
	30				30.9	TI & TP Depth 30.9
	31					Pull # 8 START 7:55 END 8:05 TIME 10 Drl 10 Ran 3.5 REC 3.3 LOSS 0 UNACC 0
	32				9	
	33					
46.4	34		Go to 34-3			TI & TP Depth 34.4

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT HOLE NO.  
6ALLIPOLIS Lock + Dam R-89/2

<b>DRILLING LOG</b>		Division <b>ORD</b>		Installation <b>ORH-CD</b>		File No. <b>K 741</b>	
1. PROJECT <b>Gallipolis Lock &amp; Dam</b>		2. LOCATION (Coordinates or Section) <b>MONO RAD 1STA 13+33 'A'</b>		3. DRILLING AGENCY <b>W. B. JACQUES</b>		4. HOLE NO. (As shown on drawing title and file number) <b>R-90/1</b>	
5. NAME OF DRILLER <b>STEVE FRYS</b>		6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN <b>0-498.1</b>		8. DEPTH DRILLED INTO ROCK <b>341</b>	
9. TOTAL DEPTH OF HOLE <b>464</b>		10. SIZE AND TYPE OF BIT <b>4 1/2"</b>		11. DAY OF YEAR ELEVATION SHOWN (FEET or METERS) <b>M. S. L.</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>R-53 MOBILE</b>	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>		14. TOTAL NUMBER CORE BOXES <b>9</b>		15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE STARTED <b>10-4-89</b> COMPLETED <b>10-4-89</b>	
17. ELEVATION TOP OF HOLE <b>498.1</b>		18. TOTAL CORE RECOVERY FOR BORING <b>341</b>		19. SIGNATURE OF INSPECTOR <b>J. E. T.</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SS. f. m. gr., m. hd. sta. br. bkn			Pull #1
	1		CLS s.-m. hd., m. dk. gr., shy 1.3 h.c. btwn 0.0 & 4.9			START 11:07 End 11:17 Time 10 Drl 10 Ran 5.0 REC 3.6 LOSS 1.3 UNACC
	2					
	3				1	
	4				3.4	
	5					
	6		SLS-sa., m. hd., m. dk. gr.			Pull #2
492.4						START 11:26 End 11:40 Time 14 Drl 14 Ran 4.5 REC 2.9 LOSS 1.6 UNACC
	7				2	
491.1			CLS/SLS inter. bdd., s.-m. hd. m. dk. gr. CLS.-shy SLS-occ. sa.: Cl. con. ptgs. 1.6 h.c. btwn 7.0 & 9.4 0.1 h.c. btwn 9.4 & 10.4 0.5 h.c. (prob) 14.4-15.3			
	8					
	9					
	10					9.4 T <sub>1</sub> Depth 9.4 TP Depth 9.5

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PROJECT **Gallipolis Lock & Dam** HOLE NO. **R-90/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6ALLIPOLIS Lock+DAM		GRH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10					Pull # 3
						START 12.21
	11					End 12.30
						Time 9
						Dr/ 9
						Ran 4.9
	12				3	REC 4.9
						LOSS 0.1
						Unacc
	13				13.2	
	14					TI & TP Depth 14.4
						Pull # 4
	15					START 12:35
475.9						End 12:44
						Time 9
	16		SLS-sa., s. n. hd., m. dk. gr.		4	Dr/ 9
			OLS Lenses 17.5 - 19.9			Ran 4.5
			0.4 L.P. 18.9 - 19.3			REC 4.7
			LProb.			LOSS 0.5
	17				17.2	Unacc
	18					
	19				5	TI & TP Depth 18.9
478.4						Pull # 5
						START 12.57
	20		SLS-s.m. hd., n. dk. gr.			End 1.08
			w/ f. g. SS. lam. & lenses			Time 11
			& cc. OLS lens			Dr/ 11
						Ran 4.5
	21				20.9	REC 3.9
						LOSS 0.4
						Unacc
	22					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT 6ALLIPOLIS Lock+DAM  
HOLE NO. R-90/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		498.1		Hole No. R 90/1	
PROJECT		INSTALLATION		OPH-CD		SHEET 3	
6ALLIPOLIS LOCK & DAM						OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	22						
	23						
474.5						TI Depth 23.2 TD Depth 23.4 Pull # 6	
	24		ICL. s.m. hd. n.br., bkn. S.K.		6	START - 1:15 End - 1:24 TIME 9 Dri 9 Ran 4.0 REC 1.8 LOSS 1.1	
	25				24.5		
	26					TI Depth 26.1	
	27						
	28				7	TP Depth 27.4 Pull # 7 START 1:28 End 1:38 TIME 10 Dri 10 Ran 3.5 REC 4.8 LOSS -0	
	29				29.1		
	30					TI & TP Depth 30.9 Pull # 8 START 1:45 End 1:55 TIME 10 Dri 10 Ran 3.4 REC 2.5 LOSS 0 UNACC 0	
	31				0		
	32					TI Depth 33.4 TP Depth 33.9	
	33				32.5		
	34				9	Pull # 9 START 2:00 End 2:10 TIME 10 Dri 10 Ran 0.4 REC 0.9 LOSS 0	
464	34		Go To 34.3			TI & TP Depth 34.3	

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-243

PROJECT

6ALLIPOLIS LOCK & DAM R-90/1

HOLE NO.

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 4 SHEETS	
1. PROJECT		ORD		204-CD			
2. LOCATION (Coordinate or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT 4" X 5 1/2"			
3. DRILLING AGENCY		W. G. JARVIS		11. DAY OF ELEVATION MEASUREMENT			
4. HOLE NO. (As shown on drawing title and file number)		R-90/2		12. MANUFACTURER'S DESIGNATION OF DRILL		MSK	
5. NAME OF DRILLER		STEVE FRYE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 - 498.4		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		34.4		16. DATE HOLE		STARTED 10-6-89 COMPLETED 10-6-89	
9. TOTAL DEPTH OF HOLE		464		17. ELEVATION TOP OF HOLE		498.4	
				18. TOTAL CORE RECOVERY FOR BORING		74.4	
				19. SIGNATURE OF INSPECTOR		JET	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
499.7			SS, m.g; m.hd; bkn; gr. sta. br.			Pull #1 START 8:14 End 8:21 Time 7 Dri 7 Ran 5.0 Rec 5.0 Loss 0 unacc	
	1				1		
	2		CLS./SLS. interbed;				
			CLS-s.m.hd.; m. dk. gr. sh				
	3		SLS. s.-m. hd; m. dk. gr. ooc. sa. closely spaced cl., coa./fld. ptgs. 0.3 L.C. btm. 5.0 & 9.8.				
	4				3.7		
	5				2	TI & TP Depth 5.0	
	6					Pull #2 START 8:27 End 8:37 Time 8 Dri 8 Ran 4.8 Rec 4.5 Loss 0.3 unacc	
	7				7.4		
	8						
	9				3		
	10					TI & TP Depth 9.8	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT HOLE NO.  
Gallipolis Lock & Dam R90/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
GALLIPOLIS Lock + DAM				498A		R 90/2	
CLASSIFICATION OF MATERIALS (Description)				% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
ELEVATION	DEPTH	LEGEND					
a	b	c	d	e	f	g	
	10					Pull #3	
	11				11.2	START 8:45 End 8:55 Time 10 Drl 10 Ran 3.8 Rec 7.1 Loss 0 unacc	
	12						
	13				4		
	14					TI Depth 13.6 TP Depth 13.8	
484						Pull #4	
483.1	15		SLS - sli. sa., s. m. hd., m. dk. gr.		14.9	START 9:02 End 9:10 Time 8 Drl 8 Ran 3.8 Rec 4.1 Loss 0 unacc	
	16		SLS - Sa m. hd., m. dk. gr. hld., irr. vert frac. 15.4. 16.1 hor., coa ptg @ 16.5, 17.2, 17.4, 17.6.				
	17				5		
	18						
479.7					18.7	TI & TP Depth 18.7	
	19		CLS - sly., s. m. hd., m. dk. gr. w/SLS lens grading into			Pull #5	
	20				6	START 9:22 End 9:37 Time 15 Drl 15 Ran 4.8 Rec 3.8 Loss 0.8 unacc	
476.9							
	21						
	22						

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS Lock + DAM

HOLE NO

R 90/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		498.4		Hole No. R90/2	
PROJECT		INSTALLATION		SHEET 3 OF 4 SHEETS			
6 ALLI POLTS LOCK + DAM		DRH-CD					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	22		100 s.m.hd., r.br., bkn., slk gr. to 24.5 0.8, LC. btwn. 21.5 & 23.5 (prob.)		22.3		
	23						
	24						
	25						
	26						
	27						
	28						
	29						
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	98						
	99						
	100						

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-229-243

PROJECT

6 ALLI POLTS LOCK + DAM

HOLE NO.

R-90/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE # 498.4		Hole No. R-90-2	
PROJECT		INSTALLATION		SHEET		OF 4 SHEETS	
GALLIPOLIS Lock + Dam		ORH-CD					
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. E8Y e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
463.8	34		Bottom Hole		34.1	Pull # 8	
	35				10	START 10:40	
					34.6	END 10:51	
						Time 11	
						Drl 11	
						Ran 1.4	
						Rec	
						Loss	
						Unacc	
						TI & TP Depth 34.6	

ENG FORM 1836-A  
JUN 67

GPO 1968 OF-325-243

PROJECT

GALLIPOLIS Lock + Dam R-90/2

HOLE NO.



DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
PROJECT <b>Gallipolis Lock &amp; Dam</b>		<b>ORD</b>		<b>ORH-CD</b>		<b>1</b>	
LOCATION (Coordinate or Station) <b>MDND R-91 STA 13+73 "A"</b>		DATE <b>10-5-89</b>		SIZE AND TYPE OF BIT <b>4 1/2"</b>		SHEET <b>OF 3 SHEETS</b>	
DRILLING AGENCY <b>W. G. JAGUES</b>		MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>		TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b>	
HOLE NO. (As shown on drawing title and file number) <b>R-91/1</b>		TOTAL NUMBER CORE BOXES <b>10</b>		ELEVATION GROUND WATER <b>NA</b>		DATE HOLE <b>10-5-89</b>	
NAME OF DRILLER <b>STEVE FRY</b>		ELEVATION TOP OF HOLE <b>498.4</b>		TOTAL CORE RECOVERY FOR BORING <b>34.5</b>		SIGNATURE OF INSPECTOR <b>GET</b>	
DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		THICKNESS OF OVERBURDEN <b>0</b>		DATE HOLE <b>10-5-89</b>		COMPLETED <b>10-5-89</b>	
DEPTH DRILLED INTO ROCK <b>- 498.4</b>		TOTAL DEPTH OF HOLE <b>34.5</b>					

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
497.4	1		SS. - mg., gr. mhd. Crushed; sta br. to 0.1			Pull #1 START 2.40 End 2.52 Time 12 Drl 12 Ran 5.0 Rec 4.7 Loss 0.3 unass 4
	2		CLS - s. m. - dk gr. SLK when bkn.		1	
	3					
	4				3.8	
493.9	5		CLS, SLS interbedd. s. m. hd., m. - dk. gr. CLS. s. m. hd., shy			TP Depth 4.7 TL Depth 5.0
	6		SLS - ooc. sa: cl. Co. fld. closely spaced hor. pgs. o.b. L.C. bkn 4.7 & 9.5 sa SLS 11.5 - 12.2 14.7 - 15.1		2	Pull #2 START 7.28 End 7.40 Time 12 Drl 12 Ran 4.5 Rec 4.0 Loss 0.8
	7				7.3	
	8					
	9				3	
	10					TP & TL Depth 9.5

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		498.4		Hole No. R 9111	
PROJECT			INSTALLATION			SHEET	
GALLIPOLIS LOCK DAM			ORHED			2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	10		CLS/LS			Pull #3	
						START 7:46	
						END 7:53	
	11					TIME 7	
						Dr/ 7	
					11.5	RAM 4.5	
						REC 4.6	
	12					LOSS 0	
						undcc 0	
	13						
					4		
						TP Depth 14.0	
	14					TI Depth 14.1	
						Pull #4	
						START 7:59	
						END 8:04	
	15				15.2	TIME 10	
						Dr/ 10	
						RAM 5.1	
	16					REC 5.0	
						LOSS 0	
					5	undcc 0	
	17						
	18						
490.1							
	19		SS. -sly-m. hd., Sig., m. gr. w/ thin dk. sly. lam.		19.0	TP & TI Depth 19.1	
						Pull #5	
						START 8:19	
						END 8:30	
	20					TIME 11	
						Dr/ 11	
					6	RAM 4.3	
						REC 4.1	
	21					LOSS 01	
						undcc	
	22						

ENG FORM 1836-A  
JUN 57

GPO: 1969 OF-328-243

PROJECT

GALLIPOLIS Lock+Dam R 9011

HOLE NO.

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Locks + Dam		ORH-CD		OF SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22					
475.5					22.7	
475.1	23					TP 23.3 TL Depth 23.4
	24		100. R. br., S. m. hd., bkn. S/K. 0.5 LC, bwn. 23.3 & 27.3		17	Pull #6 START 8.39 END 8.51 TIME 12 Dri 12 RAN 3.9 REC 3.5 LOSS 10.5 UNACC 0
	25					
	26				26.4	
	27					TP & TL Depth 27.3
	28					Pull #7 START 8.57 END 9.08 TIME 11 Dri 11 RAN 4.0 REC 4.0 LOSS 0 UNACC 0
	29				8	
	30					
	31				30.5	TP & TL Depth 31.3
	32					Pull #8 START 9.12 END 9.22 TIME 10 Dri 10 RAN 3.2 REC 3.0 LOSS 0.1 UNACC 0
	33				9	
46.4	34		39.4 Extra Hole			TP Depth 34.4 TL Depth 34.5

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT HOLE NO.  
GALLIPOLIS Lock + Dam R 90/1

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
		ORH		ORH-CD		SHEET 117	
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
Gallipolis Lock & Dam		MDND R-91/ STA 14+03 A		4x5.5"		M.S.L.	
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
W.G. JAGUES		R-91/2		B-53 MOBILE		DISTURBED N/A	
5. NAME OF DRILLER		6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
STEVE FRYE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		9		N/A	
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
0 - 497.7		33.8		STARTED 10-6-89		COMPLETED 10-7-89	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR			
464		33.8		JFT			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
497.5			SS. m.g., m. hd., sta. br., bkn.			Pull #1
	1		cls. S. m. hd., m. dk. gr., bkn.; fr. slk		1	START 11:05 End 11:13 Time 8 Drl 8 Ran 4.8 REC 4.8 Loss 0 Unacc 0
	2					
	3					
	4				3.8	
	5					TI Depth 4.8
492.4			S.S. sly. fg, m. hd., m. gr. mass dk. gr. sly. stgs starting @ 8.2		2	TP Depth 5.8
	6					Pull #2
	7				7.3	START 12:00 END 12:10 TIME 10 Drl 10 Ran 5.1 REC 4.4 Loss .06 Unacc 0
	8					
	9				3	
488.4			cls/sls			TI Depth 9.8
			(cont)		(cont)	TP Depth 9.9

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PROJECT HOLE NO.  
Gallipolis Locks & Dam R-91/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 ALLIPOLIS Lock + DAM		4977		R 91/2		
		OPEN-CD		2 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		CLS./SLS. interbdd., s., m. hd. m. -dk. gr. SLS. - occ. sa.		3	Pull # 3 START 12:44 END 12:55 TIME 11 Dri 11 RAN 4.5 REC 4.5 LOSS 0 UNACC 0
	11		CLS. - shy - cl coa/sk. hor. ptgs		11.2	
	12					
	13				4	
	14					TP Depth 14.3 TP Depth 14.4
482.7	15		SS. - sly., m. hd., m. gr., w/dk. gr. sly. lam. s/k. sly. cls. 15.9. -16.6 grading more sly. w/depth.		14.8	Pull # 4 START 1:05 END 1:15 TIME 10 Dri 10 RAN 4.1 REC 4.2 LOSS 0 UNACC 0
	16				5	
	17					
	18					
479.					18.5	TI & TP Depth 18.5
	19		CLS/SLS. interbdd.; SLS. - occ sa CLS. - shy - cl coa/pld. ptgs grading into.		6	Pull # 5 START 1:20 END 1:29 TIME 9 Dri 9 RAN 5.0 REC 4.7 LOSS .03 UNACC 0
477.2	20					
	21		CLS - S. m. hd., m. -dk gr. shy 0.3 - LC. btwn. 20.5 & 23.5			
	22		(CONT)		(CONT)	(CONT)

ENG FORM  
JUN 67 1836-A

GPO 1969 OF-325-243

PROJECT  
6 ALLIPOLIS Lock + DAM

HOLE NO.  
R-91/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT		INSTALLATION		SHEET		OF SHEETS	
GALLIPOLIS LOCK & DAM		497.7		DRH-CD		R 91/2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	22				223	Cont Poll #5	
474.2	23					Tl & TP Depth 23.5	
	24		100. r. br., s.-m. h. d., bkn., s/k		7	Pull # 6	
	25					START 7:45	
	26					END 7:58	
	27					TIME 13	
	28					Dri 13	
	29					Ran 5.1	
	30					REC 5.0	
	31					LOSS	
	32					UNACC	
	33				26.1	Tl Depth 28.5	
	34					TP Depth 28.6	
	35					Pull # 7	
	36					START ?	
	37					END ?	
	38				29.9	TIME ?	
	39					Dri ?	
	40					Ran 5.2	
	41					REC 5.2	
	42					LOSS	
	43				9	UNACC	
464	44		Reaction Hole		33.7	Tl Depth 33.7	
	45					TP Depth 33.8	

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS Lock & Dam R 91/2

HOLE NO.

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		11. DATE FOR ELEVATION SHOWN (FMS or BSL)	
Gallipolis Lock & Dam		MONO R92 STA 14+13 "A"		4YSR		M.S.L.	
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
W. G. JACQUES		R-92/1		B-53 MOBILE		DISTURBED UNDISTURBED	
5. NAME OF DRILLER		6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
STEVE FRYE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		9		N/A	
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
0 - 498.2		464		STARTED 10-4-89 COMPLETED 10-5-89		498.2	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR		34.2	
34.2		34.2		JCT			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
498.2	1		SS. - m.g., m. hd., m. gn., bkn.			Pull #1 START 2.40 END 2.52 Time 12 Drl 12 RAN 5.0 REC 4.7 LOSS 0 UNACC 0	
496.9	2		CLS. S. - m. hd., m. dk gr., occ. sa, lens 0.4 L.C. btwn. 1.3 & 5.0		1		
	3						
	4						
493.5	5				3.6	TP: 4.7	
	6					TI Depth 5.0	
	7		SS. - sly. sig. m. h., m. dk., gr.		2	Pull #2 START 7.28 END 7.40 Time 12 Drl 12 RAN 4.5 REC 4.0 LOSS 0.8	
490.7	8						
	9		CLS/SLS. interbdd., S. m. hd., m. - dk. gr. SLS - occ. sa. CLS. - shy w/cl. coal/plci plgs. 0.3 L.C. btwn. 7.5 & 9.8 0.5 L.C. btwn. 9.8 & 14.5 0.3 S. gr. 0.1 14.5 & 14.8		3	TP & TI Depth 9.5 Pull #3	
	10		(CONT)			CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
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PROJECT HOLE NO.  
Gallipolis Lock & Dam R-92/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS LOCK DAM		OCH-CD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		CLS/SLS			Pull # 3
	11					START 7.46
						End 7.53
						TIME 7
					11.3	Drl 7
	12					RAN 4.5
						REC 4.6
						LOSS 0
						UNACC 0
	13					
	14				4	
483.4						TP Depth 14.0 TI Depth 14.1
	15		SS - ve sly., fg. m. hd., m. - dk gr. w/ dk gr. sly stks.		15.3	Pull # 4
						START 7.59
						END 8.09
						TIME 10
						Drl 10
	16		CLS lens 16.0 - 16.4 grading nick sly w/ depth.			RAN 5.1
						REC 5.0
						LOSS 0
						UNGCC 0
	17				5	
	18					
479.5					18.7	
	19		SLS. S. m. hd., m. - dk. gr. w/ cl. lams. Sa. 19.4 - 21.0			TI & TP Depth 19.1
	20					Pull # 5
						START - 8.19
						End - 8.30
						Time 11
						Drl 11
	21				6	RAN 4.3
477.2						REC 4.1
						LOSS 0.1
						UNACC 0
	22		CLS - S. m. hd. m. - dk. gr. w/ cl.			
			(CONT)	(CONT)	(CONT)	(CONT)

ENG FORM  
JUN 67 1836-A

GPO 1965 OF-319-143

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO.  
R-92/1



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 Allipolis Lock + Dam		ORH-CD		3 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22				22.5	
	23					
474.6						TP Depth 23.9 TI Depth 23.4
	24		10L. -S. m.h.d., r. br., bkn. s/k. 0.4. LC. btum. 28.8 & 29.9 0.2LC. btum. 29.9 & 34.2		7	Pull #6 START 8.39 End 8.51 TIME 12 DrI 12 RAN 3.9 REC 3.5 LOSS 0.5 UNACC 0
	25					
	26				26.2	
	27					
	28				8	TP & TI Depth 27.3 Pull #7 START 8.57 End 9.08 TIME 11 DrI 11 RAN 4.0 REC 4.0 LOSS 0 UNACC 0
	29				29.3	
	30					
	31				9	TP & TI Depth 31.3 Pull #8 START 9.12 End 9.22 TIME 10 DrI 10 RAN 3.2 REC 3.0 LOSS 0.1 UNACC 0
	32					
	33					
464.2	34		Bottom Hole 34.5			TP Depth 34.4 TI Depth 34.5

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT  
6 Allipolis Lock + Dam

HOLE NO.  
R-92/1

DRILLING LOG			DIVISION		INSTALLATION		SHEET	
1. PROJECT			000		DRH-CD		1-12	
2. LOCATION (Geographical or Station)			GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		9158"	
3. DRILLING AGENCY			W. G. JAGUES		11. DAYUM FOR ELEVATION ERROR (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)			R-92/2		12. MANUFACTURER'S DESIGNATION OF DRILL		R-53 MOBILE	
5. NAME OF DRILLER			STEVE FRYE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE			<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN			0-499		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK			34		16. DATE HOLE		STARTED 10-9-89 COMPLETED 10-9-89	
9. TOTAL DEPTH OF HOLE			464		17. ELEVATION TOP OF HOLE		498.0	
					18. TOTAL CORE RECOVERY FOR SOILING		34	
					19. SIGNATURE OF INSPECTOR		JST	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)		
498.0			SS.-m.g., m. hd., gr. bkn			Pull #1		
497.2						START 8:54		
	1		CLS. s. ni. hd., m.-dk. gr. hvy. gr. cl. coa., fld ptgs			End 9:03		
	2		0.3 L.C. btwn 0.8 & 4.6		1	Time 9		
	3					Drl 3		
	4					Ran 5.0		
	5					REC 4.3		
493.1					3.7	LOSS 0.3		
	6		SS.-v. sly., f.g., m. hd., m.-dk. gr. w/closely spaced, s. cl. ptgs.			UNACC 2		
491.6						TI Depth 4.6		
	7		CLS/SLS. interbed., s. m. hd., m.-dk. gr.		2	TO Depth 5.0		
	8		CLS -shy < hvy. coa. fld ptgs			Pull #2		
	9					START 9:07		
	10					End 9:17		
						Time 10		
						Drl 10		
						Ran 4.7		
						REC 5.0		
						LOSS 2		
						UNACC 2		
					7.5	TI Depth 9.6		
						TO Depth 9.7		
						Pull #3		

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PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-92/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R 92/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock + DAM		GRH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
486.4	11		CLS/SLS		11.1	Pull #3 START 9:34 End 9:43 Time 9 Dri 9 Ran 4.4 REC 4.4 LOSS 0 UNACC 0
484.4	12		SLS-sa, s.m. hd, mass. m. dr. gr.		4	
	13					
482.8	14		CLS-shy, s.m. hd, m. dk. gr.		14.8	TP Depth 14.1 Pull #4 START 9:50 End 10:10 Time 20 Dri 20 Ran 4.8 REC 4.9 LOSS 0 UNACC 0
	15					
	16		SS-sly, fig, m. hd, m. gr. w/ thin. dk. sly. stks. & lenses clay. len. 15.4 - 15.6 grading sly. w/ depth.		5	
	17		cl. coa, sly. pts. 17.5-17.9			
	18		0.5, LC, CLS. to 18.9-			
	19		19.8. - cl. pld, coa ptgs		18.5	TP Depth 18.9 Pull #5 START 10:14 End 10:24 Time 10 Dri 10 Ran 3.9 REC 3.4 LOSS 0.5 UNACC 0
	20				6	
	21					
476	22		(CONT)		22	

ENG FORM 1836-A JUN 67

GPO: 1969 OF-228-243

PROJECT GALLIPOLIS Lock + DAM HOLE NO. R-92-2

# DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE

498.0

Hole No. R 92/2

PROJECT

GALLIPOLIS Lock & Dam

INSTALLATION

ORH-CD

SHEET 3

OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23		CLS/SLS. interbdd., s. m hd., m.-dk. gr. SLS.- sl. sa			TIE TP Depth 22.8 Pull # 6 START 10.30 END 10.41 Time 11 Dri 11 Ran 3.2 REC 3.2 LOSS 0 UNACC 0
	24		CLS-shy. cl. coalst ptgs. grading		7	
472.0	25					
	26				25.7	TIE TP Depth 26.0 Pull # 7 START 10:45 End 10:56 Time 11 Dri 11 Ran 3.9 REC 3.8 LOSS 0 UNACC 0
	27		JCL. r br. s-m-hd. bkn. slk		8	
	28					
	29				29.3	
	30					T1 Depth 29.8 TP Depth 29.9 Pull # 8 START 11.00 End 11.12 Time 12 Dri 12 Ran 4.5 REC 3.2 LOSS 1.0 UNACC 0
	31				9	
	32					
	33					
464.4	34		Cottoni Hole 39.4		34.0	TP Depth 34.4 T1 Depth 34.0

ENG FORM 1836-A

JUN 67

GPO 1965 OF-329-243

PROJECT

GALLIPOLIS Lock & Dam

HOLE NO.

R-92/2

BOLLING LOG		DIVISION		INSTALLATION		1010 MG. 10 72/1	
PROJECT		ORD		ORH-CD		SHEET 1 OF 3 SHEETS	
LOCATION (Coordinates or Station)		GALLIPOLIS LOCK + DAM		NO. SIZE AND TYPE OF BIT		+X58"	
DRILLING AGENCY		MDNA R-93 1 STA 14+53 "A"		DATE FOR ELEVATION SHOWS (YR or MM)		M.S.L.	
HOLE NO. (As shown on drawing title and file number)		R-93/1		MANUFACTURER'S DESIGNATION OF DRILL		R-53 MOBILE	
NAME OF DRILLER		STEVE FRYE		TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		TOTAL NUMBER CORE BOXES		9	
THICKNESS OF OVERBURDEN		0 - 498.9		ELEVATION GROUND WATER		0	
DEPTH DRILLED INTO ROCK		34.1		DATE HOLE		STARTED 10-12-89 COMPLETED 10-12-89	
TOTAL DEPTH OF HOLE		464		ELEVATION TOP OF HOLE		498.3	
				TOTAL CORE RECOVERY FOR BORING		34.1	
				SIGNATURE OF INSPECTOR		JET	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
498.3			CLS/SLS. interbedd. S, m. hd., midk gr.			Pull #1
	1		CLS. - shy w/ cl. coa / sh. Pths		1	START 1:13 END 1:22 TIME 9 DR 9 Ran 5.0 REC 4.9 LOSS 0 UNACC 0
	2		SLS. occ sa sa. len 1.8 - 2.1 0.5 L.C. btwn 4.9 & 7.4, 0.6 LC. 9.4 & 13.0			
	3					
	4				3.6	
	5					TL Depth 4.9 TP Depth 5.2
	6				2	Pull #2
	7					START 1:28 END 1:38 TIME 10 DR 10 Ran 4.4 REC 3.9 LOSS 0.5 UNACC 0
	8				7.3	
	9				3	
	10					TL & TP Depth 9.4

(CONT)

(CONT)

cont. Next sheet

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PROJECT HOLE NO.  
GALLIPOLIS Lock + Dam R93/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.	
PROJECT		INSTALLATION		SHEET	
GALLIPOLIS LOCK & DAM		ORH-CD		2	
ELEVATION		DEPTH		LEGEND	
a	b	c	d	e	f
CLASSIFICATION OF MATERIALS (Description)			% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
			CLS/SLS		Pull #3 START 1:45 END 1:55 TIME 10 DRI 10 RAN 3.7 REC 3.0 LOSS 0.6 UNACC 0
	11			11.3	
	12				
	13				
484.3	14			4	TI Depth 13.0 TP Depth 13.1 Pull #4 START 2:03 END 2:14 TIME 11 DRI 11 RAN 5.0 REC 4.9 LOSS 0 UNACC 0
	15		SS. - ve sly. fig m. hd., m. gr. CLY SLS. len. 15.4 - 15.6 & 6 kn. CLY SLS. len 16.4 & 17.0	15.4	
	16				
	17			5	
480.3	18				TI Depth 17.9 TP Depth 18.1 Pull #5 START 2:19 END 2:34 TIME 15 DRI 15 RAN 3.6 REC 3.7 LOSS 0.1 UNACC 0
	19		SLS/CLS. interbed CLS/SLS. contact gr. cl. Coar/fld SLS. ccc. sa. 0.1 L.C. b/w m. 17.9 & 21.7 1.7 L.C. b/w m 21.7 & 25.0	19.1	
	20				
	21			6	
	22		(CONT)	(CONT)	TI & TP Depth 21.7

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO

R93/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R 93/1		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
GALLIPOLIS LOCK + DAM		ORH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	23				22.8	Pull # 6 START 2:40 End 2:48 TIME 8 Drl 8 RAN 3.4 REC 1.6 LOSS 1.7 UNACC 0
473.3	25				7	TI Depth 25.0 TP Depth 25.1
	26		ICL. v. br., s. m. hcl. brn, s/k			Pull # 7 START 2:55 End 3:09 TIME 14 Drl 14 RAN 4.0 REC 4.1 LOSS 0 UNACC 0
	27					
	28				27.9	
	29					TI & TP Depth 29.1
	30				8	Pull # 8 START 3:15 End 3:30 TIME 15 Drl 15 RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	31					
	32				31.6	
	33					
	34				34.1	Bottom Hole 39.1 E = 39.1

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-225-243

PROJECT

GALLIPOLIS LOCK + DAM R-93/1

HOLE NO.

<b>DRAWING NO.</b>		<b>DIVISION</b>		<b>INSTALLATION</b>		<b>FILE NO.</b>	
020		OED		ORH-CD		R-93/2	
<b>1. PROJECT</b>				<b>10. SIZE AND TYPE OF BIT</b>			
Gallipolis Locks & Dam				4 1/2"			
<b>2. LOCATION (Coordinate or Station)</b>				<b>11. DAY OF ELEVATION SHOWN (T.M. or M.L.)</b>			
MONO R-93 STA 14+39.9				M.S.L.			
<b>3. DRILLING AGENCY</b>				<b>12. MANUFACTURER'S DESIGNATION OF DRILL</b>			
W. G. JACOBS				B- MOBILE			
<b>4. HOLE NO. (As shown on drawing title and file number)</b>				<b>13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN</b>		<b>14. TOTAL NUMBER CORE BOXES</b>	
R-93/2				DISTURBED N/A		UNDISTURBED N/A	
<b>5. NAME OF DRILLER</b>				<b>15. ELEVATION GROUND WATER</b>		<b>16. DATE HOLE</b>	
STEVE EBYE				N/A		STARTED 10-13-89	
<b>6. DIRECTION OF HOLE</b>				<b>17. ELEVATION TOP OF HOLE</b>		<b>18. TOTAL CORE RECOVERY FOR BORING</b>	
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				497.9		33.9	
<b>7. THICKNESS OF OVERBURDEN</b>				<b>19. SIGNATURE OF INSPECTOR</b>			
0 - 497.9				JET			
<b>8. DEPTH DRILLED INTO ROCK</b>							
33.9							
<b>9. TOTAL DEPTH OF HOLE</b>							
464							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SS..m. hd., m. gr., m. g. bkn.			Pull # 1
497.4						START 9:20 End 9:35 TIME 7 Dr 7 Ran 5.0 REC 4.1 LOSS 0.8 UNBCC 0
	1		CLS./SLS. interbedd.-s. m. hd., m. -dk. gr. SLS -ccc. sa			
	2		CLS. -shy - cl. Coa fhd. ptgs.			
	3		0.4 L.C. b/w n. 4.9 & 8.7 0.3 L.C. b/w n. 8.7 & 13.1 0.1 L.C. b/w n. 13.1 & 14.0	1		
	4			3.8		
	5					TP DEPTH 4.9 TI DEPTH 5.0
	6					Pull # 2
	7					START 9.52 End 10.03 TIME 11 Dr 11 Ran 4.8 REC 3.2 LOSS .5
	8			2		
	9			7.5		
	10			3		TP Depth 8.6
						TI Depth 9.8



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock & Dam		ORH-CD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	11		CLS/SLS		3	Pull #3 START 10.13 End 10.23 Time 10 Dri 10 Ran 3.6 REC 3.6 Loss 1.1 Unacc 0
	12				11.5	
	13					TP Depth 19.3 TI Depth 19.4
483.9	14				4	Pull #4 START 10.31 End 10.42 Time 11 Dri 11 Ran 4.7 REC 4.7 Loss 0 Unacc 0
	15		SS.-sly. fig. m. hd., m. gr. w/dk. gr. sly. silks ve. sly to 16.3.		15.2	
	16					
	17				5	
479.4	18		SLS/CLS interbed., s.m. hd. m.-dk. gr. cl. coa/fid. @ closely spaced. contracts. Sn. 20. 19.3-20.4		18.9	TP Depth 18. TI Depth 18. Pull #5 START 10.56 END 11.12 Time 16 Dri 16 RAN 5.00 REC 4.00 LOSS .9 Unacc 0
	19					
	20					
477.5	21		CLS.-sly. m. dk. gr. s. m. hd. closely spaced, gr. cl. coa pty		6	
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A  
JUN 67

CPO. 1967 OF-329-243

PROJECT GALLIPOLIS Lock & Dam  
HOLE NO. R93/2

PROJECT GALLIPOLI'S LOCK &amp; DAM

INSTALLATION DEH-CD

SHEET OF SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
473.5	23				6	
	24				22.6	
	25		ICC. + br. s. m. hd., bkn., s/k.		7	TP Depth 22.9 TI Depth 23.1 Pull # 6 START 10.23 End 11.36 Time 13 Dri 13 Ran 4.0 REC 4.2 Loss 0 unacc 0
	26				26.2	
	27					
	28				8	TP & TI Depth 27.1 Pull # 7 START 11.45 End 11.56 Time 11 Dri 11 Ran 4.7 REC 4.7 Loss 0
	29					
	30				30.0	
	31				9	TP & TI Depth 31.8 Pull # 8 START 11.00 End 11.11 Time 11 Dri 11 Ran 2.6 REC 2.4 Loss 0 unacc 0
	32					
	33					
464	34				33.9	IP 34.2 TI Depth 34.4

ENG FORM 1836-A

JUN 67

GPO 1965 OF-329-143

PROJECT

GALLIPOLI'S LOCK &amp; DAM

HOLE NO.

R-93/2

DRILLING LOG		Division		INSTALLATION		Hole No. <b>K 74/1</b>	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>		<b>ORD</b>		<b>DRH-CD</b>		SHEET <b>1</b> OF 3 SHEETS	
2. LOCATION (Coordinates or Station) <b>MONO R-94 1ST 13 + 73 "A"</b>				10. SIZE AND TYPE OF BIT <b>4x5.5"</b>			
3. DRILLING AGENCY <b>W. G. JACOBS</b>				11. DAY OF ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-94/1</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
5. NAME OF DRILLER <b>STEVE FRYE</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>9</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>0 - 498.4</b>				16. DATE HOLE STARTED <b>10-4-89</b> COMPLETED <b>10-5-89</b>			
8. DEPTH DRILLED INTO ROCK <b>34.4</b>				17. ELEVATION TOP OF HOLE <b>498.1</b>			
9. TOTAL DEPTH OF HOLE <b>464.0</b>				18. TOTAL CORE RECOVERY FOR BORING <b>34.5</b> %			
				19. SIGNATURE OF INSPECTOR <b>JET</b>			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
498.4							
497.8			SS, m.g., m.h., gr. ve. bkn			Pull # 1	
	1		interbed. CLS/SLS, s, m. dk. gr. CLS - 0.3-3.0 w/o. 8 LC (mech) @ 3.9-4.7; 52 SLS .4, 7-5.6, grading into clay. SLS. : bkn. CLSH. OCC. sly 6.9-14.6, w/o. 5 LC (mech) btwn 6.9 & 8.6 @ 1.1 LC. btwn 8.6 & 13.3		1	START 2:40 End 2:52 Time 12 Dri 12 Ran 50 REC 4.7 Loss 0 unacc 0	
	2						
	3						
	4				3.8		
	5					TP Depth 4.7	
	6					TI Depth 5.0	
	7					Pull # 2	
	8				2	START 7:28 End 7:40 Time 12 Dri 12 Ran 4.5 REC 4.0 Loss 0.8 unacc 0	
	9						
	10				3	TP Depth 9.5	

ENG FORM 1836  
MAR 71

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PROJECT

**GALLIPOLIS LOCK + DAM**

HOLE NO.

**R-94/1**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 498.1		Hole No. R 94/1	
PROJECT GALLIPOLIS Lock+Dam			INSTALLATION O & H = C D		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11		CLS/SL		3	Pull # 3 START 7:46 END 7:53 TIME 7 DRI 7 RAN 4.5 REC 4.6 LOSS 0 UNACC 0
	12				12.0	
	13					
	14				4	TP DEPTH 14.0 TI DEPTH 14.1
489.5						
	15		SLS, s.s., m.h., m.gr.			Pull # 4 START 7:59 END 8:09 TIME 10 DRI 10 RAN 5.1 REC 5.0 LOSS 0 UNACC 0
482.1	16		CLSH, s., m.gr., sly., bkn. grading			
481.3					16.8	
	17		SLS, s. m.h., m.dk.gr. w/fq., sa. lam. grading			
480.1	18				5	
	19		CLSH, s. m.h., m.-dk.gr., closely spaced hor. ptgs w/tr. cl. cor. / fld. occ. sa.			TP & TI Depth 19.1
478.3						
	20		ICL. m.-dk.gr., s.-m.h., slk., bkn. Trans.		20.3	Pull # 5 START - 8:19 END 8:30 TIME 11 DRI 11 RAN 4.3 REC 4.1 LOSS 0.1 UNACC 0
	21				6	
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS Lock+Dam R-94/1

HOLE NO.

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R 94/1		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
GALLIPOLIS Lock + DAM		ORH-CD				
ELEVATION a	DEPTH 22b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23				6	TP Depth 23.9 TI Depth 23.4
474.1	24		ICL, r.br., S.m.h., SIL, bkn.		24.6	Pull # 6 START 8:33 End 8:51 Time 12 DRL 12 RAN 3.9 REC 3.5 LOSS 0.5 UNACC 0
	25					
	26					
	27				7	TP & TI Depth 27.3
	28				28.3	Pull # 7 START 8:57 End 9:08 Time 11 DRL 11 RAN 4.0 REC 4.0 LOSS 0 UNACC 0
	29					
	30				8	TP & TI Depth 31.3
	31				31.8	Pull # 8 START 9:12 End 9:22 Time 10 DRL 10 RAN 3.2 REC 3.0 LOSS 0.1 UNACC 0
	32					
	33				9	TP DEPTH 34.4 TI DEPTH 34.5
464	34		End @ 34.2			

ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-329-283

PROJECT

GALLIPOLIS Lock + DAM R 94/1

HOLE NO.

<b>DRILLING LOG</b>		<b>DIVISION</b>		<b>INSTALLATION</b>		<b>HOLE NO.</b>	
PROJECT <b>GALLIPOLIS Lock + DAM</b>		<b>ORD</b>		<b>ORHCD</b>		<b>SHEET 1 OF 3 SHEETS</b>	
LOCATION (Coordinates or Station) <b>MONO R-94 / STA 15 + 23 "A"</b>				SIZE AND TYPE OF BIT <b>#15.5"</b>			
DRILLING AGENCY <b>W. G. JAGUES</b>				MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
HOLE NO. (As shown on drawing title and file number) <b>R-94/2</b>				TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
NAME OF DRILLER <b>STEVE FRYE</b>				TOTAL NUMBER CORE BOXES <b>9</b>		UNDISTURBED <b>N/A</b>	
DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				ELEVATION GROUND WATER <b>N/A</b>		DATE HOLE STARTED <b>10-10-89</b> COMPLETED <b>10-10-89</b>	
THICKNESS OF OVERBURDEN <b>0 - 497.7</b>				ELEVATION TOP OF HOLE <b>497.7</b>			
DEPTH DRILLED INTO ROCK <b>33.7</b>				TOTAL CORE RECOVERY FOR BORING <b>33.7</b>			
TOTAL DEPTH OF HOLE <b>469</b>				SIGNATURE OF INSPECTOR <b>JET</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.7			SS.-m.g., m.h., gr. bkn			Pull #1 START - 7:40 END - 7:50 TIME - 10 DRI 10 RAN 5.0 REC 4.5 LOSS 0 UNACC 0
496.6	1		CLS/SLS. interbedd; s. m. h., m.-dk gr. SLS.-cc. sa CLS.-shy. w/gr. cl. coal fld. ptgs. 38. L.C. btwn. 4.S. & 9.7. 0.5. L.C. btwn. 9.7. & 14.7.		1	
	2					
	3					
	4				3.8	
	5					TP Depth 4.5
	6				2	TI Depth 5.0 Pull #2 START 7:58 END 8:07 TIME .9 DRI .9 RAN 4.8 REC 4.4 LOSS 0.8
	7					
	8				7.4	
	9				3	
	10					TF Depth 9.7 TI Depth 9.8

ENG FORM 1836  
MAR 71  
PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
**GALLIPOLIS Lock + DAM**  
HOLE NO.  
**R-94/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock + DAM		ORH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	11		CLS/SLs			Pull #3 START 8:12 End 8:26 TIME 14 D-I 14 RAN 4.9 REC 4.5 LOSS 0.5 Unacc 0
	12				11.7	
	13				4	
	14					
483						TP & TI Depth 14.7
	15		SS, sly. fig., m. hd., m. gr. w/dk. gr. sly. stqs & lenses			Pull #4 START 8:35 End 8:46 TIME 11 D-I 11 RAN 5.2 REC 5.0 LOSS 0 Unacc 0
	16				15.6	
	17				5	
	18					
	19					TP. Depth 19.0
	20				19.3	
	21					TI Depth 19.7
					6	Pull #5 START 8:50 End 9:03 TIME 13 D-I 13 RAN 4.6 REC 4.5 LOSS .2 Unacc 0
476.2						
	22		CLS (CONT)		(CONT)	

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-328-243

PROJECT GALLIPOLIS Lock + DAM  
HOLE NO. R-94/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCKEDAM		4977		294/2		
		ORH-1D		CA 9 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		OLS. - S. m. hd., m. dk. gr. 000. slt., 0.2 L.C. btwn. 21.5 & 24.4			
	23				23.0	
	24					
473.3						TP DEPTH 24.4 TIDEPTH 24.5
	25		100. r.br., s.-m. hd., bkn., slt.		7	Pull # 6 START 9.08 End 9.20 TIME 12 DRI 12 RAN 3.2 REC 5.2
	26					
	27				26.8	
	28					TP DEPTH 27.7
	29				8	
	30					TIDEPTH 29.6
	31				30.5	Pull # 7 START 9:30 End 9:41 TIME 11 DRI 11 RAN 6.0? REC 4.1 Loss 0 Undcc 0
	32				9	
	33					
464			Bottom Hole		33.7	TP & TIDEPTH 33.7

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-325-245

PROJECT

GALLIPOLIS LOCKEDAM 2-94/2

HOLE NO



DRILLING LOG		Division	INSTALLATION	Hole No. <i>K-9511</i>		
1. PROJECT <i>GALLIPOLIS Lock + Dam</i>		<i>ORD</i>	<i>OPH-CD</i>	SHEET <i>1</i> OF <i>3</i> SHEETS		
2. LOCATION (Coordinate or Station) <i>MONO R-95 STA 15+33 "A"</i>		10. SIZE AND TYPE OF BIT <i>4 1/2" "</i>				
3. DRILLING AGENCY <i>W. G. JACOBS</i>		11. DAYUM FOR ELEVATION SHOWN (FEM or HEM) <i>M.S.L.</i>				
4. HOLE NO. (As shown on drawing title and file number) <i>R-9511</i>		12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53 MOBILE</i>				
5. NAME OF DRILLER <i>STEVE FRYE</i>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <i>N/A</i> UNDISTURBED <i>N/A</i>				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <i>9</i>				
7. THICKNESS OF OVERBURDEN <i>0 497.8</i>		15. ELEVATION GROUND WATER <i>N/A</i>				
8. DEPTH DRILLED INTO ROCK		16. DATE HOLE STARTED <i>10-11-89</i> COMPLETED <i>10-11-89</i>				
9. TOTAL DEPTH OF HOLE <i>33.8</i>		17. ELEVATION TOP OF HOLE <i>497.8</i>				
		18. TOTAL CORE RECOVERY FOR BORING <i>33.8</i>				
		19. SIGNATURE OF INSPECTOR <i>JET</i>				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.8	0		SS., m.g., sta. buff, m.hd. mic., bkn. (max 0.2)			<i>Pull #1</i> <i>START 9.25</i> <i>End 9.34</i> <i>TIME 9</i> <i>Dr 9</i> <i>RAN 5.0</i> <i>RAC 3.6</i> <i>LOSS 1.4</i> <i>UNACC</i>
496.2	1					
	2		cls./sls. S.m.h., m-dk gr. PKy. sky. ve. s. l.b. 2.8: 5.4-7.0 w/0.4 LC.; bkn w/overcore 7.0-10.0 w/1.1LC. m.hd. sls 10.0-12.0 w/slx. @ 10.5 shy w/s.cl.coz/fld 12.0-14.8:		<i>1</i>	
	3					
	4				<i>3.8</i>	
	5					<i>TFE TIDEPH 5.0</i>
	6				<i>2</i>	<i>Pull #2</i> <i>START 9.43</i> <i>End 9.54</i> <i>TIME 11</i> <i>Dr 11</i> <i>RAN 4.1</i> <i>REC 2.7</i> <i>LOSS 1.3</i> <i>UNACC</i>
	7					
	8				<i>7.6</i>	
	9				<i>3</i>	<i>TF Depth 9.00</i> <i>TIDEPH 9.01</i> <i>Pull #3</i>
	10				<i>(CONT)</i>	<i>CONT</i>

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MAR 71 (TRANSLUCENT)

PROJECT *Gallipolis Lock + Dam* HOLE NO. *R-9511*

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.8		Hole No. L-95/1		
PROJECT		INSTALLATION		SHEET 2 OF 3 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull # 3 START 10.00 End 10.08 Time 8 Dri 8 RAN 4.3 REC 4.0 LOSS 0.3 UNDCC 0
	11				3	
	12				12.0	
	13					TP Depth 13.3 TI Depth 13.7
	14				4	Pull # 4 START - 10:15 End 10:26 Time 11 Dri 11 RAN 3.5 REC 3.6 LOSS 0 UNDCC 0
483.						
	15		SS. sil., f.g., m.h., gr. : shy ptgs. 16.5-16.9 SIS. 17.1-18.7 w/shy Ptgs 17.5-18.0 & 18.5-18.7: f.g. SS w/ thin. sil. lam. 18.7-22.3		15.7	TP Depth 16.8 TI Depth 16.9
	16					
	17					Pull # 5. START 10.35 End 10.50 Time 15 Dri 15 RAN 3.5 REC 2.6 LOSS 0.9 UNDCC 0
	18				5	
	19				19.4	
	20					TP & TI Depth 20.4
	21					Pull # 6 START 10.00 End 10.11 Time 11 Dri 11 RAN 2.5 REC 2.5 LOSS 0 UNDCC 0
	22					

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-329-325

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R 95/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		DRH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10					Pull # 3
						START 10.00
						End 10.08
	11				3	Time 8
						Dri 8
						RAN 4.3
						REC 4.0
						LOSS 0.3
	12				12.0	UNDCC 0
						TP Depth 13.3
						TI Depth 13.4
	13				4	Pull # 4
						START - 10:15
						End 10:26
	14					Time 11
						Dri 11
						RAN 3.5
						REC 3.6
						LOSS 0
483.					15.7	UNDCC 0
	15		SS. sly., f.g., m.h., gr. : shy ptgs. 16.5-16.9 SIS. 17.1-18.7 w/shy Ptgs 17.5-18.0 & 18.5-18.7: f.g. SS w/ thin. sly lam. 18.7-22.3			
	16					
	17					
						TP Depth 16.8
						TI Depth 16.9
	18				5	Pull # 5.
						START 10.35
						End 10.50
						Time 15
						Dri 15
	19					RAN 3.5
						REC 2.6
						LOSS 0.9
						UNDCC 0
	20				19.4	
						TP & TI Depth 20.4
						Pull # 6
						START 10.00
						End 10.11
	21					Time 11
						Dri 11
						RAN 2.5
						REC 2.5
						LOSS 0
	22					UNDCC 0

ENG FORM  
JAN 67 1836-A

GPO 1963 OF-328-243

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
R 9511

# DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE

997.8

Hole No.

R-9511

PROJECT

GALLIPOLIS Lock + DAM

INSTALLATION

ORH-CD

SHEET 3  
OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.5	23					
			CLS., s. m. h., gr., shy transition 23.0 - 24.0			TI 23.0 TP 22.9 Pull # 7
473.8	24				22.7	START 10.21 End 10.34 Time 13 Dri 13 Ran 4.5 Rec 4.5 Loss 0 UNACC 0
	25		INC., s., r. br., Lkn., s/k. 2.2, L.C. btum. 30.9 & 33.8			
	26				26.4	
	27					
	28					TI & TP 27.5 Pull # 8
	29					START 10.40 End 10.51 Time 11 Dri 11 Ran 3.4 Rec 3.4 Loss 0 UNACC 0
	30				30.0	
	31					TI & TP 30.9 Pull
	32					START 12.01 End 12.15 Time 14 Dri 14 Ran 2.9 Rec 0.7 Loss 2.2 UNACC 2.2
	33					
464	34		Bottom Hole		33.8	TI & TP 33.8

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-328-243

PROJECT

GALLIPOLIS Lock + DAM

HOLE NO

R-9511

DRILLING LOG		DIVISION		INSTALLATION		Hole No.		SHEET	
1. PROJECT		ORD		ORH-CD		R 75/2		7 OF SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS Lock + DAM		10. SIZE AND TYPE OF BIT		4 1/2" S"			
3. DRILLING AGENCY		MONO R-95 STA 15+66 "A"		11. DATUM FOR ELEVATION SHOWN (FEET - MSL)		M.S.L.			
4. HOLE NO. (As shown on drawing title and file number)		W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE			
5. NAME OF DRILLER		R-95/2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED		UNDISTURBED	
6. DIRECTION OF HOLE		STEVE FRYE		14. TOTAL NUMBER CORE BOXES		10			
7. THICKNESS OF OVERBURDEN		2 498.1		15. ELEVATION GROUND WATER		N/A			
8. DEPTH DRILLED INTO ROCK		464		16. DATE HOLE		STARTED		COMPLETED	
9. TOTAL DEPTH OF HOLE		34.1		17. ELEVATION TOP OF HOLE		498.1			
				18. TOTAL CORE RECOVERY FOR BORING		34.1 %			
				19. SIGNATURE OF INSPECTOR		JET			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)			
498.1			SS, m.g., m.h., sta. buff. ve bkn.			Pull #1			
497.6			CLS/sls			START 10:16			
	1		S.m.h, m.-dk gr. PKY			END 10:25			
			SKY, ve.s, cls gr w/ sh.			TIME 9			
	2				1	Drl 9			
						RAN 5.0			
	3					REC 4.7			
						LOSS 0.1			
	4					UNACC			
					3.8				
	5					Ti Depth 4.8			
						TP Depth 5.0			
	6					Pull #2			
					2.	START 10:30			
	7					END 10:41			
						TIME 11			
	8					Drl 11			
						RAN 4.8			
	9					REC 5.0			
						UNACC			
	10				7.4				
					3				
						Ti & TP Depth 9.8			

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MAR 71 (TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS Lock + DAM R-95/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 ALLIPOLIS Lock + DAM		498.1		R 95/2		
		OEH-CD		2		
				OF 4 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
487.5	11		S.S., sly., f.g. m.h., m. gr. w/c. CLS/SLS lenses hor. pgs (max. 0.4) 10.6-12.7 w/cly. co2.		11.0	Pull #3 START 11:58 End 12:08 Time 10 Drl 10 Ran 4.6 REC 4.7 LOSS 0 UNOCC 0
483.4	15		CLS/SLS, shy., s., dk. gr. w/c. co2. pgs.		14.5	T1 Depth 14.3 TP Depth 14.5 Pull #4 START 7:35 End 7:45 Time 10 Drl 10 Ran 5.1 REC 4.7 LOSS 0 UNOCC 0
482.4	16		SS., ve. sly., f.g., m.h. w/shy SLS. BAS.		5	
479.2	19		SLS., m.h., m. gr., sly. dng. SIK. pgs. @ 20.3; shy pgs (max. piece 0.3) grading into		18.1	
	20				6	T1 Depth 19.3 TP Depth 19.5 Pull #5 START 7:55 End 8:05 Time 10 Drl 10 Ran 3.9 REC 4.3 LOSS 0 UNOCC 0
	21				21.8	
	22		(CONT)			(CONT)

ENG FORM  
JAN 67 1836-A

GPO 1969 OF-320-243

PROJECT  
6 ALLIPOLIS Lock + DAM

HOLE NO.  
R-95/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 4 SHEETS		
GALLIPOLIS Lock + Dam		498.1		R95/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
425.7	22					
	23		CLS., gr. S. Ve. S. (max piece 0.2) flux cl. cor. / fld pty			TI Depth 23.4 TP Depth 23.6 Pull # 6 START 8:12 End 8:23 Time 11 Drl 11 Ran 5.2 Rec 5.0 Loss 0 Unacc 0
422.3	24			25.4		
	25					
	26		ICL. gr. r. br, bkn, slk, S.			
	27			8		
	28					
	29			29.1		TI & TP Depth 28.6 Pull # 7 START 8:27 End 8:38 TIME 11 Drl 11 Ran 5.0 Rec 5.0 Loss 0 Unacc 0
	30					
	31			9		
	32					
	33			32.9		
413.4	34		CONT			TI & TP Depth 33.6

ENG FORM 1836-A JUN 67

GPO 1969 OF-229-243

PROJECT GALLIPOLIS Lock + Dam HOLE NO. R95-2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			498.1		R 95/2	
GALLIPOLIS LOCK + DAM			INSTALLATION		SHEET 4	
			ORH-CD		OF 4 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
463.4	34		BOTTOM HOLE.		10	Drill # 8 START 8:40 END 8:50 TIME 10 DRI 10 RAN 1.3 REC 1.1 LOSS 0 UNACC 0
	35				34.7	TL Depth 34.6 TP Depth 34.9

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-242

PROJECT

GALLIPOLIS LOCK + DAM R-95-2

HOLE NO.





DRILLING LOG		DIVISION	INSTALLATION	Hole No.
1. PROJECT <i>Gallipolis Lock</i>		<i>ORD</i>	<i>ORH - CD</i>	<i>R 28/11</i>
2. LOCATION (Coordinates or Station) <i>MONO STA. 14+26 "B"</i>		10. SIZE AND TYPE OF BIT <i>4x5 1/8"</i>		
3. DRILLING AGENCY <i>W. G. Jaques</i>		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <i>M.S.L.</i>		
4. HOLE NO. (As shown on drawing title and file number) <i>R-28/11</i>		12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53 Mobile</i>		
5. NAME OF DRILLER <i>A. Tice</i>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <i>N/A</i> DISTURBED <i>N/A</i> UNDISTURBED		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <i>9</i>		
7. THICKNESS OF OVERBURDEN <i>0 - 492.0</i>		15. ELEVATION GROUND WATER <i>N/A</i>		
8. DEPTH DRILLED INTO ROCK <i>43.8</i>		16. DATE HOLE STARTED <i>12-7-88</i> COMPLETED <i>12/7/88</i>		
9. TOTAL DEPTH OF HOLE <i>448.0</i>		17. ELEVATION TOP OF HOLE <i>492.8</i>		
		18. TOTAL CORE RECOVERY FOR BORING <i>43.8</i> %		
		19. SIGNATURE OF INSPECTOR <i>JET</i>		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
491.9	1		SS. lt gr. mod hd. med f. s.			START 11.7 Pull #1 End 11.52 Time 12 Drl 15 Ran 2.0 Rec 2.0 Loss 0
	2		ICL. r. br. s to v.s., Mod. w/g + gr. g. cl - lt. g. 491.9		1	
	3		490.3 + fatty @ 491.9 - 491.8 Mech bkn @ 490.8 - 490.6 Pass. Loss		3.2	START 12.05 Pull #2 End 12.35 Time 10 Drl 15 Ran 2.2 Rec 2.4 Loss 1.4 Unacc 0.5
488.6	4					TL Depth 4.4 TR Depth 4.2
	5		SLS: g. to gn gr. soft. to mod hd. grad. w/sh @ top to s @ bottom		2	START 12.48 Pull #3 End 1.02 Time 14 Drl 14 Ran 2.8 Rec 3.0 Loss 0.5 Unacc 0.5
	6		sev mech bkn w/loss			
	7		488.6 - 488.0, 486.1 - 485.8			
	8		sik 486.1 - 485.7			
	9		mech break @ 486.9 to 486.6			
	10		clay seam @ 481.8, 479.9			
	11		f.g. ss intbdd w/SLS below 480.7		7.6	TL Depth 7.4 TR Depth 7.0
	12		CL seam 477.1 - 477.0			
	13		bkn w/CL coating 476.5		3	START 1.16 Pull #4 End 1.36 Time 20 Drl 20 Ran 3.9 Rec 4.0 Loss 0 Unacc 0
	14					
	15				11	TL Depth 11.2 TR Depth 10.9
	16					
	17				4	START 1.51 Pull #5 End 2.07 Time 16 Drl 16 Ran 3.4 Rec 0 Unacc 0
475.8	18					
	19				14.4	TL Depth 14.6 TR Depth 14.4
	20					
			SS gr. to lt gr. mod. hd. Med to f. gr. mic. gr. contact w/SLS, c w/depth		5	START 2.36 Pull #6 End 3.12 Time 36 Drl 22 Ran 9.2 Rec 9.3 Loss 9.2
			occ xbdd - bkn pl w/CL coating 474.0 - 473.7			
			475.4, 474.8 - 466.5? 471.0? @ Small amount		17.6	
					6	

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PROJECT *Gallipolis Lock Dam* HOLE NO. *R28/11*

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
Gallipolis Lock & Dam			ORH - CD		28/1	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21				6	
	22				22	
	23					
	24				7	TP Depth 23.6
	25					TI Depth 22.9
	26					Pull # 7
	27					START 7:35
	28					End 7:55
	29					Time 20
	30				25.5	Drl 20
	31					Ran 46.7
	32					Rec 6.9
	33					Loss 6.9
	34					Unacc 0
	35				8	
	36					
	37					
	38					
	39					
	40				28.2	TP Depth 30.2
	41					
	42					
	43				9	TI Depth 30.8
	44					Pull # 8
	45					START 8:14
	46					End 8:30
	47					Time 16
	48				32.7	Drl 16
	49					Ran 8.8
	50					Rec 8.9
	51					Loss 0.1
	52					Unacc 0
	53				10	
	54					
	55					
	56					
	57					
	58					
	59					
	60					
	61					
	62					
	63					
	64					
	65					
	66					
	67					
	68					
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DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>R 28/2</i>	
1. PROJECT		ORD		ORH-CD		SHEET 2	
2. LOCATION (Coordinates or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		OF 5 SHEETS	
3. DRILLING AGENCY		Moro R28 STA. 13.94' 8"		11. DAYUM FOR ELEVATION SHOWN (TSE or BSL)			
4. HOLE NO. (As shown on drawing title and file number)		W. G. Jacques		12. MANUFACTURER'S DESIGNATION OF DRILL			
5. NAME OF DRILLER		R 28/2		B 53 Mobile			
6. DIRECTION OF HOLE				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 - 492.6		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		43.6		16. DATE HOLE		STARTED 12-6-88 COMPLETED 12/16/88	
9. TOTAL DEPTH OF HOLE		43.6		17. ELEVATION TOP OF HOLE		492.6	
				18. TOTAL CORE RECOVERY FOR BORING		43.6 %	
				19. SIGNATURE OF INSPECTOR		JFT	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
492.6	1		SS lt gr. med hd. med. to fgn. sli mic nve sh frage. blow 491.9			Pull # 1 START 12:50 LOSS -0.2 End 1:16 UNACC 0.2 Time 26 Dr 26 Ran 2.4 Rec 2.4
490.5	2				1	TI Depth 2.4
	3		ICL r br., s. mot w/g & gr. cl.			Pull # 2 START 1:30 LOSS 0.2 End 1:43 UNACC 0.2 Time 13 Dr 13 Ran 1.3 Rec 1.6
	4				3.7	TI Depth 3.7
	5					TI Depth 4.2
487.3	6		SS. interbedded H. g. 490.5 to 489.7 fatty CL 490.5 490.1		2	Pull # 3 START 2:05 End 2:19 Time 14 Dr 14 Ran 2.3 Rec 1.3 LOSS 0 UNACC 0
	7		SLS. g. to gn. gr. s to med hd. gradational w/sl @ top		6.9	TI Depth 6.5
	8		to sandy @ bottom, sandy below			Pull # 4 START 2:37 End 2:45 Time 8 Dr 8 Ran 1.3 Rec 1.3 LOSS 0 UNACC 0
	9		484.3 CL: 487.1- 486.9			TI Depth 7.3
	10		SLK 486.9		3	Pull # 5 START 3:01 End 3:16 Time 15 Dr 15 Ran 3.9 Rec 4.1 LOSS 0 UNACC 0
	11		CL. seam @ 478.8, ~ 0.05 thick			TI Depth 10.6
	12		SS & q inbdd. below 482.8		10.6	TI Depth 10.9
	13		gradational (mich) bk @ 478.5- 478.7			Pull # 6 START 3:31 End 3:46 Time 15 Dr 15 Ran 3.4 Rec 3.2 LOSS 0 UNACC 0
	14				4	TI Depth 14.1
	15					Pull # 7 START 7:15 End 7:42 Time 27 Dr 27 Ran 5.0 Rec 5.0 LOSS 0 UNACC 0
475.2	16				5	TI Depth 19.1
	17					TI Depth 19.0
	18		SS.		17.7	
	19				6	
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
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PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R 28/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		492.6		Hole No. R 28/2	
PROJECT			INSTALLATION		SHEET 2		OF 3 SHEETS	
Gallipolis Lock & Dam			ORH - CD					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)		
a	b	c	d	e	f	g		
	21		SS. g. to lt g.; med. Rd. med to f. gr. mic., acc x bdd, gradational contact. With SLs, coarser w/depth. lt. f. staining @ 465.7 mech bkn. (rounded) 463.7 463.5		21.2	Pull # 8 START 8:12 END 8:55 TIME 23 Drl 23 Ran 9.9 Rec 9.8 Loss 0 Unacc 0		
	22							
	23				7			
	24							
	25				24.7			
	26							
	27				8			
	28				28.3			
	29					TI Depth 28.0 TP Depth 28.9 Pull # 9		
	30				9	START 9.02 END 9.23 TIME 21 Drl 21 Ran 9.5 Rec 9.5 Loss 0 Unacc 0		
	31				31.5			
	32							
	33							
	34				10			
	35				35.1			
	36							
	37				11			
	38				38.4	TI Depth 38.5 TP Depth 38.5 Pull # 10		
	39					START 9:49 END 9:59 TIME 10 Drl 10 Ran 7.1 Rec 7.1 Loss 0 Unacc 0		
	40				12			
	41							
	42				42.2			
	43							
	44		(CONT)		13	(CONT)		

ENG FORM 1836-A  
JUN 67

DDO 1968 OF-229-242

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R 28/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 3 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
447.1	45		Bottom Hole		13 45.2	TP Depth 45.5
	46					
	47					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-325-243

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
28/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OR4-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		Gallipolis Lock & Dam		30. SIZE AND TYPE OF BIT		4" X 5 1/2"	
3. DRILLING AGENCY		W. G. JAGUES		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		MSL	
4. HOLE NO. (As shown on drawing title and file number)		R 29/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57	
5. NAME OF DRILLER		DAVE HAEPCK		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		13	
7. THICKNESS OF OVERBURDEN		493.4		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		44.4		16. DATE HOLE		STARTED 12-5-88 COMPLETED 12-5-88	
9. TOTAL DEPTH OF HOLE		44.4		17. ELEVATION TOP OF HOLE		493.4	
				18. TOTAL CORE RECOVERY FOR BORING		44.4 %	
				19. SIGNATURE OF INSPECTOR		JET	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
490.7	2		SS lt. gr. mod hd med. to f. g small sh. frag. thru. out sh. len. 493.0 - 492.5		1	Pull #1 START 1.05 END 1.25 TIME 23 DRI 23 RAN 3.2 REC 2.6 LOSS 0.6 UNACC 0.6	
488.6	3		ICL. r. bn. S. mot. w/ gr. & gr. gr. cl. lt. gr. Patty cl. 490.7 - 490.6		2	Pull #2 START 7.47 END 1.52 TIME 5 DRI 5 RAN 2.2 REC 2.2 LOSS 0 UNACC 0	
	4				3	Pull #3 START 2.04 END 3.10 TIME 6 DRI 6 RAN 3.2 REC 3.2 LOSS 0 UNACC 0	
	5		SLS. gr to. gn. gr. & to. mod hd. grad. hd. sh. @ top to. S. @ bot. Bkt 483.0 - 486.9 SIK 488.0 - 487.4 S. blow 483.7 redcl 483.7 - 482.7 Sh. & lt. bkt @ 478.2 477.3 - 477.1		4	Pull #4 START 2.20 END 2.28 TIME 8 DRI 8 RAN 3.2 REC 3.2 LOSS 0 UNACC 0	
	6				5	Pull #5 START 2.38 END 3.00 TIME 22 DRI 22 RAN 7.3 REC 7.8 LOSS 0 UNACC 0	
	7				6	Pull #6 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	8				7	Pull #7 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	9				8	Pull #8 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	10				9	Pull #9 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	11				10	Pull #10 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	12				11	Pull #11 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	13				12	Pull #12 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	14				13	Pull #13 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	15				14	Pull #14 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	16				15	Pull #15 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	17				16	Pull #16 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	18				17	Pull #17 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	19				18	Pull #18 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
	20				19	Pull #19 START 7.43 END 8.08 TIME 25 DRI 25 RAN 10.0 REC 10.0	
			(CONT)			(CONT)	

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PROJECT Gallipolis Lock & Dam HOLE NO. R 29-1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 493.4		Hole No. R 29/1	
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SANDSTONE			
	21				6	
	22				22.1	
	23					
	24				7	
	25					
	26				25.3	
	27					TI Depth 27 IP 26.9
	28				8	Pull # 7
	29					START 8:40
	30				29.3	End 9:17
	31					Time 37
	32					Drl 37
	33					Ran 2.8
	34					REC 10.0
	35					LOSS 0.2
	36					Unacc 0
	37				36.7	TI & TO Depth 36.8
	38					Pull # 7
	39					Start 9:50
	40					End 10:23
	41					Time 33
	42					Drl 33
	43					Ran 9.0
	44				40.4	REC 9.0
						LOSS 0
						Unacc 0
					44.0	

ENG FORM  
JUN 47

1836-A

(ER 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

R-29-1



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
Gallipolis Locks & Dam		ORH-CD		OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	45				13	
	46				46.0	TL Depth 45.9 TP 45.8
447.4	47		Bottom HOLE			
	48					
	49					
	50					

ENG FORM 1836-A (SR 1110-1-1001)

GPO 1960 OF - 628-603

PROJECT: Gallipolis Lock & Dam HOLE NO. R29-1

DRILLING LOG		DIVISION	INSTALLATION	Hole No. R 29/2		
PROJECT		ORD	ORH-CD	SHEET 1 OF 2 SHEETS		
1. PROJECT			10. SIZE AND TYPE OF BIT 4 X 5 1/2			
2. LOCATION (Coordinates or Station)			11. DATUM FOR ELEVATION SHOWN (TBM or BM)			
W/O. 29 Sta. 13+52.8			M SL			
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL			
W G Jacques			B 53 mobile			
4. HOLE NO. (As shown on drawing title and file number)			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN			
R 29/1			DISTURBED UNDISTURBED			
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES			
DAVE HARDEL			12			
6. DIRECTION OF HOLE			15. ELEVATION GROUND WATER			
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DES. FROM VERT.			NA			
7. THICKNESS OF OVERBURDEN			16. DATE HOLE			
493.7			STARTED COMPLETED			
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE			
44.7			493.7			
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING			
44.7			44.7 %			
			19. SIGNATURE OF INSPECTOR			
			J E T			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
492.3	1		SS lt. gr. med. hd., med. to f. g. mic. bkn., @ 493.1 - 492.8.			Pull #1 START 2.00 End 2.21 Time 21 Dri 21 Ran 3.2 Rec 2.3 Loss 0.9 Unacc 0.9
	2		ILL. r. br. s. med. lt. gr. a gr. cl. ll. 492.3. 491.8 mech. bkn. 490.5. 490.1		1	TI & TP Depth 3.2 Pull #2 START 7.45 Loss 0.6 End 8:02 unacc 0.6 Time 17 Dri 17 Ran 2.7 Rec 2.1
488.4	5		SLS gr. to. gn. gr. s. to med. hd. grad. w/sh. @ top to 5a. @ bottom, occ to nat. above al. 487.5 mech. spin loss: 488.4, 488.1 487.8, 486.1. bkn. 486.5-486.3, 485.4 485.0, 479.0. 478.7 bkn. pl. ~ 0.4 open ft. thr. out of seams 480.4. 480.3, 478.1-478.0 re. drill 480.4-480.1		2	TI & TP Pull #3 START 8.20 End 8:31 Time 11 Dri 11 Ran 3.9 Rec 3.8 Loss 0 Unacc 0 TP 8.7
	6				3	TI Depth 9.8 Pull #4 START 8.50 End 9.05 Time 15 Dri 15 Ran 3.6 Rec 3.6 Loss 0 Unacc 0
	7				3.3	TI & TP Depth 13.3 Pull #5 Start 9:32 End 9:43 Time 32 Dri 22 Ran 4.7 Rec 4.7 Loss 0 Unacc 0
	8				4	TI Depth 18.0 TP 18.2 Pull #6
	9				5	
	10				6	
	11					
	12					
	13					
	14					
	15					
477.5	16		SS gr. to. lt. gr. med. hd. f. to med. gn. grad. con. w/ SLS mic. mech. bkn. 446.2. 459.9. Spin loss 476.2 bkn. w/ poss cl. coating 457.2 bkn. pl. with spacing 0.2. 456.5 - 447.4 (2.9' Loss)		15.3	
	17				18.7	
	18					
	19					

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PROJECT Gallipolis Lock & Dam HOLE NO. R 29/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 493.7	Hole No. R29/2		
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD	SHEET 2 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SANDSTONE		6	Pull # 6 START 10.20 End 10.34 Time 14 Drl 14 Ran 4.5 Rec 4.8 Loss 0 Unacc 0 TP 22.5
	22				7	TI Depth 23.2
	23					Pull # 7 Start 10.47 End 11.01 Time 14 Drl 14 Ran 5.0 Rec 5.0 Loss 0 Unacc 0 TP 27.5
	24				8	TI Depth 28.0
	25					Pull # 8 START 12.30 End 2:18 Time 1:48 Drl 18 Ran 3.8 Rec 2.7 Loss 0.8 Unacc 0.8 TP 31.3
	26				9	TI Depth 31.9
	27					Pull # 9 START 2.42 End 2.57 Time .15 Drl 15 Ran 5.9 Rec 5.0 Loss -0.9 Unacc 0.9
	28				10	TP 37.2
	29					Pull # 10 START 8:00 End 9:00 Time 1 hr Drl 1 hr Ran 2.2 Rec 6.3 Loss -2.9 Unacc -2.9
	30				11	
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	42					
	43					
	44					
449.0						

ENG FORM 1836-A (SR 1110-1-1801)

GPO 1980 OF - 828 - 603

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R29/2



DRILLING LOG		DIVISION	INSTALLATION	NOTE NO.	SHEET	
1. PROJECT <u>Gallipolis Lock &amp; Dam</u>		<u>ORD</u>	<u>Q.R.H. - CD</u>	<u>2511</u>	OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <u>mon R30 sta. 13+42 "B"</u>			10. SIZE AND TYPE OF BIT <u>4X5 1/2</u>			
3. DRILLING AGENCY <u>W. G. Jacques</u>			11. DATUM FOR ELEVATION SHOWN (FMS or BMS) <u>NLSL</u>			
4. HOLE NO. (As shown on drilling title and file number) <u>R30</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>"B" 57</u>			
5. NAME OF DRILLER <u>A. TICE</u>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED <u>NA</u>	UNDISTURBED <u>NA</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES <u>10</u>			
7. THICKNESS OF OVERBURDEN <u>495.2</u>			15. ELEVATION GROUND WATER <u>NA</u>			
8. DEPTH DRILLED INTO ROCK <u>35.2</u>			16. DATE HOLE STARTED <u>12-2-88</u> COMPLETED <u>12/2/88</u>			
9. TOTAL DEPTH OF HOLE <u>35.2</u>			17. ELEVATION TOP OF HOLE <u>495.2</u>			
			18. TOTAL CORE RECOVERY FOR BORING <u>35.2</u>			
			19. SIGNATURE OF INSPECTOR <u>mike neal</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.2	1		SS lt. gr. med hd. med f gr. mic. sh scam w/c coating @ 494.4 - 494.3 ch coated frac. 494.0 - 492.5 lt. bkn. sh. bdd @ 491.3 - 491.1		1	Pull #1 START 8:45 End 9:00 Time 21 Drl 21 Ran 3.0 Rec 3.0 Loss 0 Unacc 0 TIE TO Depth 3.0
490.4	2				3.5	Pull #2 START 9:45 End 10:13 Time 28 Drl 28 Ran 5.0 Rec 5.0 Loss 0 Unacc 0 TIE TO 5.0
	3				2	Pull #3 START 10:45 End 11:12 Time 29 Drl 17 Ran 2.2 Rec 2.2 Loss 0 Unacc 0 TIE TO 7.2
489.9	4		INC r. br. s. occ med w/g @ gn. gr. cl. occ lt gr. cls frag, gr. cls @ 489.7 - 489.1 sev. bkn. + washed 480.4 - 489.7 - 489.1		7.4	Pull #4 START 11:35 End 11:56 Time 21 Drl 21 Ran 4.0 Rec 4.0 Loss 0 Unacc 0 TIE TO Depth 11.1
	5		SLS. gr. to gn., s to med hd. gradational w/sh @ top to s. @ bottom. occ small silt above 485.3 ss below 485.1 sh. scam @ 479.5 - 479.1		3	Pull #5 START 12:05 End 12:28 Time 23 Drl 23 Ran 4.9 Rec 4.9 Loss 0 Unacc 0 TIE TO Depth 14.1
	6				4	Pull #6 START 2:00 End 2:35 Time 35 Drl 24 Ran 4.7 Rec 2.6 Loss 2.6 Unacc 2.1
478.6	7		SS gr. to lt. gr., med hd. f to med. g gradational c. w/depth, occ x. bdd pl mic., mech. bkn @ 474.4 - 474.2 30° ang. pl. @ 479.1 to 477.0, Bands 0.04 sh. g Botile mica 459.8 - 459.3		18.1	
	8				6	
	9					
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PROJECT  
Gallipolis Lock & Dam  
HOLE NO.  
R-30/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 495.2		Hole No. R30/1	
PROJECT Gallipolis Lock & Dam				INSTALLATION		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	21		SANDSTONE			TP Depth 20.0	
	22					TI 21.3	
	23					Pull # 7	
	24				6	START 9:05 End 9:14 Time 9 Dri 9 Ran 3.2 Rec 3.0 LOSS -0.2 TP 24 Unacc -0.2	
	25				23.8		
	26					TI Depth 21.9	
	27				7	Pull # 8 START 9:45 End 10:00 Time 15 Dri 15 Ran 3.8 Rec 4.8 TP 28.9 LOSS 0 Unacc 0	
	28				27.5	TP Depth 27.8	
	29					Pull # 9	
	30					8	START 10:02 End 10:50 Time 8 Dri 8 Ran 2.7 Rec 3.0 LOSS 0.3 Unacc 0.3
	31			30.9	TP & TI 31.5		
	32				9	Pull # 10 START 11:05 End 11:29 Time 19 Dri 19 Ran 4.6 Rec 4.6 LOSS 0 Unacc 0	
	33				34.4		
	34				10		
458.2	36		BOTTOM HOLE		36.4	TI Depth 36.4 TP 36.3	
	37						
	38						
	39						
	40						
	41						
	42						

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

R30/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT Gallipolis Lock & Dam				10. SIZE AND TYPE OF BIT 415.5			
2. LOCATION (Coordinate or Station) MONO R30 STA. 13+10 "B"				11. DATUM FOR ELEVATION SHOWN (FEET or METER) M.S.L.			
3. DRILLING AGENCY W. G. DEQUIGES				12. MANUFACTURER'S DESIGNATION OF DRILL B57 mobile			
4. HOLE NO. (As shown on drawing title and file number) R30/1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER A. TICE				14. TOTAL NUMBER CORE BOXES 10		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE 12-8-88		STARTED 12-9-88	
7. THICKNESS OF OVERBURDEN 496.4				17. ELEVATION TOP OF HOLE 496.4			
8. DEPTH DRILLED INTO ROCK 36.4				18. TOTAL CORE RECOVERY FOR BORING 36.4			
9. TOTAL DEPTH OF HOLE 4.60				19. SIGNATURE OF INSPECTOR Mike Neal LET			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SS lt. gr. mod. hd., med. to coarse gr., slightly mic. - mech. bkn. 492.7-492.5		1	Pull #1 START 1.36 END 1.55 TIME 19 DRI 19 RAN 4.8 REC 4.8 LOSS 0 UNACC 0	
	2				3.7		
	3					TI Depth 4.8 TP Depth 4.7	
490.3	6				2	Pull #2 START 2.10 RAN 1.1 END 2.10 REC 1.3 TIME 4 DRI 4 LOSS 0 UNACC 0 TI Depth 6.1 TP Depth 5.9	
	7		Inc. nus. sm. sh. frag. & stringer below 492.5		7.2	Pull #3 START 2.31 END 2.48 TIME 17 DRI 17 RAN 3.8 REC 3.8 LOSS 0 UNACC 0	
	8		ICL v. br., s. mat w/qr & qn gr. CL mech. bkn @ 490.3-490.2 Ser. bkn @ 488.7-487.4 - 487.1		3		
486.8	10				10.8	TP Depth 9.9 TI Depth 10.03	
	11		SLs gr. to gn gr. s to mod. hd. grad. w/sh. @ top to s. @ bottom bkn. 485.6-485.3		4	Pull #4 START 2.59 END 3.31 TIME 32 DRI 32 RAN 8.2 REC 8.6 LOSS 0 UNACC 0	
	12		sh. lense: 480.5-480.3		14.7		
479.4	17				5		
	18		SS. gr. to lt. gr. mod. hd. mod. to f. g. mic. gradational contact w/SLs, occ. x bdd bkn 473-472.9		18.4	TP Depth 18.6 TI Depth 18.6 Pull #5 cont. next page	
	19						
	20						

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PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
30/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			496.7	R-30/12		
Gallipolis Lock & Dam			INSTALLATION	SHEET 2 OF 2 SHEETS		
			DIRH			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21		num mica bdt. p. 1. 468.2 468.1		6	Pull # 5 START 7:29 End 8:14 Time 45 Dr 4.5 Ran 7.4 Rec 7.3 Loss 0 UNACC 0
	22		num. sh. stringers & frag. 464.0 - 463.8		22	
	23					
	24				7	
	25					
	26				25.4	TP Depth 25.5 TL Depth 25.9 Pull # 6
	27					START 8:32 End 9:04 Time 32 Dr 3.2 Ran 9.4 Rec 9.3 Loss 0 UNACC 0
	28				8	
	29				28.9	
	30					
	31				9	
	32					
	33				32.9	
	34					
	35				10	TP Depth 34.9 TL Depth 35.2 Pull # 7
459.7	36				36.5	START 9:32 Loss 0 End 9:40 UNACC 0 Time 8 Dr 8 Ran 2.5
	37					TP Depth 37.4 TL Depth 37.7

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

Gallipolis Lock & Dam

HOLE NO.

30/2



DRILLING LOG		Division		INSTALLATION		Hole No. R-31/1	
1. PROJECT		ORH		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		Grallipolis Lock & Dam		10. SIZE AND TYPE OF BIT 4 X 5 1/2		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)	
3. DRILLING AGENCY		MORR R31 Sta. 13100 "B"		12. MANUFACTURER'S DESIGNATION OF DRILL		N.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-31 R-31/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		DAVE HARDCR		14. TOTAL NUMBER CORE BOXES		11	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		496.9		16. DATE HOLE		STARTED 12-8-88 COMPLETED 12/9/88	
8. DEPTH DRILLED INTO ROCK		36.9		17. ELEVATION TOP OF HOLE		496.9	
9. TOTAL DEPTH OF HOLE		36.9		18. TOTAL CORE RECOVERY FOR BORING		36.9	
				19. SIGNATURE OF INSPECTOR		Mick Neal JST	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SS. 1/4 gr. mod med. to 0 gr., sh. mic. hi ang., CL f.i. frac. @ 496.3-496.9 Sh. frag. & stringers @ 490.4-490.1		1	Pull #1 START 10.21 END 10.32 Time 11 Dri 11 Ran 4.5 Rec 4.5 Loss 0 Unacc 0	
	2				3.4	TIEP Depth 4.5	
	3				2	Pull #2 START 10.52 END 10.58 Time 6 Dri 6 Ran 2.5 Rec 2.5 Loss 0 Unacc 0	
	4				6.7	TIEP Depth 7.0	
489.9	5		ICL. r. bn, s. to v.s. med. w/ q & gr. q. CL. bk pl. 0'-8" spacing interbed w/ q. SLS. below 487.7 sev. bk. @ 487.5-487.4.		3	Pull #3 START 11.11 END 11.18 Time 7 Dri 7 Ran 2.2 Rec 2.2 Loss 0 Unacc 0	
	6				10.2	TIEP Depth 9.2	
485.9	7		SLS. q to gr. q. s to not hd. gradational w/ sh. @ top. to s @ bottom		4	Pull #4 START 12.15 END 12.25 Time 10 Dri 10 Ran 2.5 Rec 2.4 Loss 0 Unacc 0	
	8				13.7	TIEP Depth 11.6	
	9		CL. starts @ 481.7 & 481.6 CL. coated pl. @ 480.0		5	Pull #5 START 12:40 END 12:50 Time 10 Dri 10 Ran 2.5 Rec 2.5 Loss 0 Unacc 0	
	10				17.3	TIEP Depth 14.0	
479.4	11		SS gr. to 1/4 gr., mod. med. to f grain, mic. occ x bdd, gradational contact w/ SLS thin sh. frag. @ 461.3 460.0		6	Pull #6 START 1.09 END 1.25 Time 14 Dri 14 Ran 6.0 Rec 5.7 Loss 0.2 Unacc 0.2	
	12					TIEP Depth 20.0	

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PROJECT Grallipolis Lock & Dam HOLE NO. R-31/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
Gallipolis Lock & Dam				020		21/1	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
			SANDSTONE			TI Depth 20.3	
	21					Pull # 7	
	22				21.2	START 1:42	
	23					End 1:56	
	24					Time 14	
	25				7	Dri 14	
	26					Ran 9.0	
	27					Rec 9.0	
	28					Loss 0	
	29					Unacc 0	
	30				24.7		
	31				8		
	32						
	33						
	34						
	35						
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
4600			BOTTOM HOLE				
	37				9	TI Depth 29.3	
	38					Pull # 8	
	39					START 2:16	
	40					End 2:32	
	41					Time 16	
	42				31.5	Dri 16	
	43					Ran 9.6	
	44					10.0	
	45					Rec 9.6	
	46				10	Loss 0	
	47					Unacc 0	
	48						
	49						
	50						
	51						
	52						
	53						
	54						
	55						
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	99						
	100						

ENG FORM 1836-A  
JAN 67

GPO: 1969 OF-325-343

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R 31 / 1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		0RD		0R4-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		455/L	
3. DRILLING AGENCY		MONO R-31 STA 12+59.8"		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R 31-2		12. MANUFACTURER'S DESIGNATION OF DRILL		"57"-8"	
5. NAME OF DRILLER		A. TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED Na UNDISTURBED Na	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		13	
7. THICKNESS OF OVERBURDEN		496.9		15. ELEVATION GROUND WATER		Na	
8. DEPTH DRILLED INTO ROCK		36.9		16. DATE HOLE		STARTED 12-9-88 COMPLETED 12/9/88	
9. TOTAL DEPTH OF HOLE		36.9		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		36.9 %	
				19. SIGNATURE OF INSPECTOR		LET	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SS if gr med to c., g. slightly mic. acc. x-bdd mus. f. sh stringer & frag. 490.5-489.2		1	Pull #1 START 10:35 End 10:48 Time 13 Dr 13 Ran 4.7 Rec 4.7 Loss 0 Unacc 0	
	2				37		
	3						
	4						
	5					TI Depth 4.9 TP 4.7	
	6				2	Pull #2 START 11:00 End 11:05 Time 5 Dr 5 Ran 3.1 Rec 2.9 Loss 0.2 Unacc 0.2 TP 7.8	
489.2	7				7.3		
	8		ICL r. br. s. mat. w/ gr. & gn. gr. cl/ mach. bkn. 489.2 488.9			TI Depth 8.1	
	9				3	Pull #3 START 11:17 End 11:34 Time 27 Dr 27 Ran 3.4 Rec 3.1 Loss 0.3 Unacc 0.3 TP 11.2	
486.8	10				10.9		
	11		SLS. gr. to gn. gr. s. to mod. hd. grad. w/ sh. @ top to s. @ bottom mach. bkn. @ 485.7-485.6 mach. bkn. & spin 484.7- 484.0 f. g. SS 482.2-481.0 bkn. sh. 481.0-480.6		4	TI Depth 12.9	
	12					Pull #4	
	13				14.3	START 12:19 End 12:44 Time 25 Dr 2.5 Ran 7.7 Rec 7.7 Loss 0 Unacc 0	
	14						
	15				5		
	16						
	17				17.9		
478.5	18				6	TI Depth 19.0 TP 18.9	
	19				(CONT)	Pull #5	
			Cont next sheet		(CONT)		

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PROJECT: Gallipolis Lock & Dam HOLE NO. R31-2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R 31 / 2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
Gallipolis Locks & Dam		ORH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21		SS. gr. to ft gr. med hd. med to f. gr. m.c. occ x-bdd		6	Pull #5
	22		Num + bands of Biolite mic bdd pl.		21.4	START 12.55 End 1.32 Time 37 Dri 37 Ran 9.8 Rec 9.9 Loss 0 Unacc 0
	23		459.4. 459.3. 459.6 458.2		7	
	24					
	25				25.3	
	26					
	27				8	
	28					
	29				28.8	TI Depth 28.9 TP 28.7
	30					Pull #6
	31				9	START 1.59 End 2.12 Time 21 Dri 21 Ran 10.0 Rec 9.9 Loss 0 Unacc 0
	32				32.6	
	33					
	34				10	
	35					
	36				36.4	
460.2	37					
	38				11	
458.2	39		Bottom Hole		38.7	TI Depth 38.9 TP 38.7
	40					
	41					
	42					
	43					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT Gallipolis Lock & Dam HOLE NO. R 31 / 2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		CRH		1	
2. LOCATION (Coordinates or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		4x5 1/2	
3. DRILLING AGENCY		W.G. Claques		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)		11.5 L	
4. HOLE NO. (As shown on drawing title and file number)		R-32/1		12. MANUFACTURER'S DESIGNATION OF DRILL		"B" 53	
5. NAME OF DRILLER		A. Tice		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		496.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		36.9		16. DATE HOLE		12-9-88	
9. TOTAL DEPTH OF HOLE		36.9		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		36.9	
				19. SIGNATURE OF INSPECTOR		Mike Neal	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SS - lt. gr. mod hd. f. to ss med g., slightly mic. OCC. coarse gr.		1	Pull #1 START 7.25 End 7.45 Time 20 Dri 20 Ran 5.1 Rec 4.6 Loss 0 Unacc 0	
	2				35		
	3						
	4						
	5						
	6				2	TI Depth 5.1 Pull #2 START 7.56 End 8.23 Time 7 Dri 7 Ran 2.8 Rec 2.9 Loss 0 Unacc 0	
	7				6.9		
489.4	8		CL scum @ 489.4 ICL. r. br. s mot. w/ g g. g. CL. lt. g. fatty CL. 489.4 - 489.1		3	TI Depth 7.7 TP 7.5 Pull #3 START 8.36 End 8.47 Time 11 Dri 11 Ran 2.3 Rec 2.0 Loss 0.2 Unacc 0.2	
487.4	9				10	TI Depth 9.8 TP 9.7 Pull #4 START 9:05 End 9:02 Time 15 Dri 15 Ran 3.2 Rec 2.7 Loss 0.5 Unacc 0.5	
	10		SLS g. to gr. g. s to med. hd. gradational w/ sh @ top to sandy @ bottom.		4	TI Depth 13.0 TP 12.9 Pull #5 START 9:40 End 10:01 Time 21 Dri 21 Ran 4.6 Rec 4.8 Loss 0 Unacc 0	
	11		sev mac. bkn 487.2 - 486.9 w/ poss loss		5		
	12		bkn pl w/ spin loss 485.9 485.5		17.5		
	13		CL scum @ 482.6		6	TI Depth 17.8 TP 17.5 Pull #6	
	14						
	15						
	16						
	17						
480.5	18		SANDSTONE				
	19						
	20						

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PROJECT Gallipolis Lock & Dam HOLE NO. R 32/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. R32/1	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
Gallipolis Locks & Dam			ORHED			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21		SS gr. to. lt gr. med hd., f to med g, mica., occ x bedded, gradational Contact w/ SLS.		20.8	Pull # 6 START 10.23 End 10.46 Time 23 Dri 23 Ran 10.0 Rec 9.9 Loss 0 Unacc 0
	22					
	23		CL coated angled pl., 30° @ 476.9 to 476.8 white nodal (poss Cal.?) @ 468.5		7	
	24				24.5	
	25					
	26					
	27				8	
	28				28.1	TP 27.5 TIDepth 27.7 Pull # 7 START 11:06 End 11:26 Time 20 Dri 20 Ran 10.0 Rec 9.9 Loss Unacc
	29					
	30				9	
	31					
	32				31.7	
	33					
	34					
	35				35.2	
	36					
460.0	37		BOTTOM HOLE		37.5	TP 37.9 TIDepth 37.7
459.4						
	38					
	39					
	40					
	41					
	42					
	43					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT Gallipolis Lock & Dam  
HOLE NO. R32/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH		1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		4 x 5 1/2"	
3. DRILLING AGENCY		W. G. JACOBS		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M SL	
4. HOLE NO. (As shown on drawing title and file number)		R 32/2		12. MANUFACTURER'S DESIGNATION OF DRILL		"B" 57 mobile	
5. NAME OF DRILLER		DAUCHARDEN		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		496.3		15. ELEVATION GROUND WATER		NA	
8. DEPTH DRILLED INTO ROCK		36.3		16. DATE HOLE		12-9-88 12-10-88	
9. TOTAL DEPTH OF HOLE		39.1		17. ELEVATION TOP OF HOLE		496.3	
				18. TOTAL CORE RECOVERY FOR BORING		36.3	
				19. SIGNATURE OF INSPECTOR		JET	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.5	1		SS lt. gr. mod. hd. med c.g. occ thin sh stringer		1	Pull #1 START 3:04 End 3:10 Time 6 Drl 6 Ran 4.1 Rec 4.1 Loss 0 Unacc 0	
	2						
	3						
	4						
	5						
489.9	6				2	TI & TP Depth 4.1 Pull #2 START 3:26 End 3:30 Time 4 Drl 4 Ran 2.5 Rec 2.3	
	7		INC r-br, s. mod. w/gr + gn. gr. cl, it. gr. : 489.9-489.3		7.0	TP Depth 6.4 TI Depth 6.3	
	8						
	9				3	Pull #3 START 7:31 End 7:40 Time 9 Drl 9 Ran 2.6 Rec 2.6 Loss 0 Unacc 0	
486.8	10		SLS. gr to gn. gr., s to mod. hd. gradational w/sh & top to s @ bottom		10.2	Pull #4 START 8:10 End 8:45 Time 35 Drl 35 Ran 9.0 Rec 8.8 Loss 0.2 Unacc 0.2	
	11		See bkn w/angled planis (-45°) slickside, 480.8				
	12		-480.3 (poss fault, poss loss) mock bkn		4		
	13		478.7 - 478.5				
	14				14.0		
	15						
	16				5		
	17				17.6		
	18					TP Depth 18.0	
477.3	19		SANDSTONE		6	TI Depth 18.8	
			(cont)		(cont)	PULL #5	
						CONT	

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PROJECT HOLE NO.  
Gallipolis Lock & Dam R 32/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. R32/2	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
Gallipolis Lock & Dam			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21		SS, gr. to lt gr, f to med g mic, occ. & bedded gradational contact w/ SLS		6 21.1	Pull #5 START 9:31 END 9:48 TIME 17 Drl 17 Ran 7.5 Rec 7.5 Loss 0 Unacc 0
	22		mech spin loss @ 473.4 470.8			
	23		mech, broken: 471.2 470.8		7	
	24		Dia loss due to re-drilling 461.1 - 460.8			
	25		Redrilled 464.8 - 460.8		24.8	
	26		lt colored stringers (pors. calcareous) @ 459.0			TP Depth 25.5 TI Depth 25.8 Pull #6 START 10:00 10:15-10:34 END 11:01 TIME 1hr 1min Drl 20 Ran 6.0 Rec 5.6 Loss 0.4 Unacc 0.4
	27				8	
	28				28.9	
	29					
	30				9	
	31					
	32				32.1	TP Depth 31.5
	33					
	34				10	
	35					
	36				36.0	TI Depth 35.7 Pull #7 START 11:30 END 11:36 TIME 6 Drl 6 Ran 6.0 Rec 6.5 Loss 0 Unacc 0 TP Depth 37.5 TI Depth 38.2
460.0						
	37					
458.3	38		Bottom Hole		11 38.0	
	39					
	40					
	41					
	42					
	43					

ENG FORM JUN 67 1836-A

GPO: 1969 O-328-243

PROJECT Gallipolis Lock & Dam

HOLE NO. R32.2



DRILLING LOG		DIVISION	INSTALLATION		SHEET	
1. PROJECT		ORD	ORH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		Gallipolis Lock & Dam				
3. DRILLING AGENCY		W. G. AQUER				
4. HOLE NO. (As shown on drawing title and file number)		R33/1				
5. NAME OF DRILLER		A. TICE				
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				
7. THICKNESS OF OVERBURDEN		497.1				
8. DEPTH DRILLED INTO ROCK		460.0				
9. TOTAL DEPTH OF HOLE		37.1				
10. SIZE AND TYPE OF BIT		4x5 1/2				
11. DATUM FOR ELEVATION SHOWN (FEET - MEAN)		M.S.L.				
12. MANUFACTURER'S DESIGNATION OF DRILL		3" 53"				
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		<input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> UNDISTURBED				
14. TOTAL NUMBER CORE BOXES		N/A				
15. ELEVATION GROUND WATER		N/A				
16. DATE HOLE		STARTED 12-9-88 COMPLETED 12-10-88				
17. ELEVATION TOP OF HOLE		497.1				
18. TOTAL CORE RECOVERY FOR BORING		37.1				
19. SIGNATURE OF INSPECTOR		J.E.T.				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
497.1	1		SS lt. gr. med hd. med. to coarse g. slily mica.			Pull #1
	2		sl. mech. bkn. @ 492.5		1	START 12:40
	3		492.3 Num thin sh.			END 12:55
	4		Stringers & frag. 492.0			TIME 15
	5		- 491.8, 489.7-489.4			Drl 15
	6		f. gn. @ 491.8-491.3		3,4	Ran 4.8
	7		490.7-490.5 ang. pl			Rec 4.6
	8		30° @ 490.7 490.7-490.5			Loss 0.2
	9					Unacc 0
489.0	10					TI Depth 4.3
	11		ICL. r. br. s. mot. w/ gr. & gn. g. cl. lt. g. fatty cl		2	Pull #2
	12		489.0-488.7-g SLS 487.1			START 1:05
	13		487.0			END 1:13
	14				7.0	TIME 8
	15					Drl 8
	16					Ran 3.3
	17					Rec 3.6
	18					Loss 0.2
	19					Unacc 0
486.9	20					TI Depth 8.2 TP B.1
	21		SLS. g to gn. gr. s. to med. hd. gradational w/ sh. @ top to sandy @ bottom		3	Pull #3
	22		Sev. Mec. bkn. 486.9-486.6			START 1:30
	23		thin cl. seams @ cl			END 1:48
	24		Coated pl. w/ sp.			TIME 15
	25		0.2' apart. 486.3-483.7			Drl 15
	26		bkn. 480.2-480			Ran 2.0
	27		f. g. SS 483.7-480.7		10.2	Rec 2.0
	28		t. cl. seam 478.7			TI Depth 10.3 TP Depth 10.2
	29					Pull #4
	30				4	START 2:07
	31					END 2:21
	32					TIME 14
	33					Drl 14
	34					Ran 4.1
	35					Rec 4.0
	36				13.7	Loss 0
	37					Unacc 0
	38					TP Depth 14.2
	39					TI Depth 14.5
	40				5	Pull #5
	41					START 2:34
	42					END 2:51
	43					TIME 17
	44					Drl 17
	45					Ran 4.8
	46					Rec 4.8
478.0	47				17.4	TP Depth 19.0
	48					TI Depth 19.7
	49				6	
	50					

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R33/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R 33 / 1		
PROJECT		INSTALLATION		SHEET 2		
Gallipolis Lock & Dam		OAR-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21		SS gr. to lt gr, mod hd. med to f. g, mic, gradational Cont. w/ SLS		6 20.6	Pull # 6 START 3.08 End 3.24 Time 16 Drl 16 Ran 9.8 Rec 9.8 Loss 0 Unacc 0
	22		thin sh. stringers @ 472.8 - 472.6 nus. mic. bding		7	
	23		Pl. w/occ Fe nodules 466.8 - 466.4			
	24				24.4	
	25					
	26					
	27				8	
	28				29	
	29					TI Depth 28.8
	30				9	Pull # 7 START 7:35 End 7.51 Time 16 Drl 16 Ran 9.9 Rec 9.9 Loss 0 Unacc 0
	31				31.8	
	32					
	33					
	34				10	
	35				35.3	
	36					
460.	37				11	
458.4	38		Bottom HOLE		38.7	TP Depth 38.7
	39					TI Depth 39.2
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO 1968 OF-329-242

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R 33/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <i>Gallipolis Lock &amp; Dam</i>		ORD		ORH - CD			
2. LOCATION (Coordinates or Station) <i>STA 11+60.8"</i>				10. SIZE AND TYPE OF BIT <i>4 X 5 1/2"</i>		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) <i>M.S.L.</i>	
3. DRILLING AGENCY <i>W. G. JARQUES</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>"B" 57</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>R 33 1/2</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i> UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>DAVE HARDER</i>				14. TOTAL NUMBER CORE BOXES <i>11</i>		15. ELEVATION GROUND WATER <i>N/A</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <i>12-10-88</i>		STARTED <i>12-12-88</i> COMPLETED	
7. THICKNESS OF OVERBURDEN <i>496.8</i>				17. ELEVATION TOP OF HOLE <i>496.8</i>			
8. DEPTH DRILLED INTO ROCK <i>36.8</i>				18. TOTAL CORE RECOVERY FOR BORING <i>36.8</i>			
9. TOTAL DEPTH OF HOLE <i>36.8</i>				19. SIGNATURE OF INSPECTOR <i>JET</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.8	1		SS lt. gr. mod. hd. med. to c.g. sli mic mech. bkn. 492.2 - 491.7 Num thin sh. stringers & frag 490.2 - 491.7		1	Pull #1 START 12.55 End 1:01 Time 6 Dri 6 Ran 4.6 REC 4.6 Loss 0 Unacc 0	
	2				3.7		
	3						
	4						
	5				2	TP & TI Depth 4.6 Pull #2 START 1:30 End 1:35 Time 5 Dri 5 Ran 2.6 Rec 2.6 Loss 0 Unacc 0	
489.6	7				7.2	TP 7.2 TI Depth 7.5	
	8		INC. r. br. s mot. w/g & gr. c.l. Hgr 489.6 - 489.0		3	Pull #3 START 1:43 End 2:00 Time 17 Dri 17 Ran 9.0 Rec 4.0 Loss 0.3 Unacc 0.3	
486.4	10				10.9		
	11		SLS. gr. to gn. gr. s to mod. hd. gradational w/sh @ top to s @ bottom bkn w/ sli & ang. pl. in 45° ang. frac @ 30° 484.9 - 484.8 Cl seam @ 483.6		4	TP 11.2 TI Depth 11.5 Pull #4 START 2:08 End 2:39 Time 31 Dri 31 Ran 8.2 REC 8.3 Loss 0 Unacc 0	
482.4	14				13.9		
	15		SS lt. gr. mod. hd. f. gr		5		
	16						
	17				17.6		
478.6	18				6	TI Depth 19.7 TP 19.5	
	19		SLS. gr. s. to med. hd. s. below 476.6 sli bkn. @ 478.1 - 478.0				

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
*Gallipolis Lock & Dam*

HOLE NO.  
*R33 1/2*

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				496.8		R 33/2	
Gallipolis Locks & Dam				INSTALLATION		SHEET 2	
				ORH CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f		
	21				6	Pull #5	
	22				21.0	START 8:00	
	23					End 8:48	
	24					Time 48	
	25					Dr/ 48	
	26					Ran 9.4	
	27				7	Rec 9.6	
	28					Loss 0.4	
	29					unacc 0.4	
	30				24.8		
	31						
	32						
	33						
	34						
	35						
	36						
	37						
	38						
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ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-343

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R 33/e

DRILLING LOG		DIVISION	INSTALLATION		SHEET	
1. PROJECT		ORD	ORH CD		1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		Gallipolis Lock & Dam STA 11+50 B				
3. DRILLING AGENCY		W. G. Jacobs				
4. HOLE NO. (As shown on drawing title and file number)		R34.1				
5. NAME OF DRILLER		Wayne Tice				
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				
7. THICKNESS OF OVERBURDEN		496.7				
8. DEPTH DRILLED INTO ROCK		460				
9. TOTAL DEPTH OF HOLE		361.7				
10. SIZE AND TYPE OF BIT		4x5 1/2				
11. DATUM FOR ELEVATION SHOWN (FMS or BBL)		MSL				
12. MANUFACTURER'S DESIGNATION OF DRILL		B. "53"				
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED		UNDISTURBED		
		N/A		N/A		
14. TOTAL NUMBER CORE BOXES		11				
15. ELEVATION GROUND WATER		NA				
16. DATE HOLE		STARTED		COMPLETED		
		12-10-88				
17. ELEVATION TOP OF HOLE		496.7				
18. TOTAL CORE RECOVERY FOR BORING		36.7 %				
19. SIGNATURE OF INSPECTOR		JET				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.7	1		SS lt. gr. mod. hd., med. to c. g. hi ang. frac. (bkn) 493.1-492.5 core			Pull #1 Start 8:40 End 8:55 Time 15 Drl 15 Ran 4.7 Rec 4.7 Loss 0 Unacc 0
	2		dim. Loss 492.2. 492.0		1	
	3		SLS s. gr. @ 491.5-490.9		3.4	
	4					
	5				2	TI & TP Depth 4.7 Pull #2 Start 9:09 End 9:23 Time 14 Drl 14 Ran 3.2 Rec 3.1 Loss 0.1 Unacc 0.1
489.0	7		ICL r. br., s. mot w/ gr. & gn gr. cl. (almost cls) lt. gr. 489.0-488.6 fatty @ 489.0-488.8		2	
	8					
	9				3	TP Depth 7.9 TI Depth 8.3 Pull #3 Start 9:35 End 9:47 Time 12 Drl 12 Ran 1.8 Rec 1.6 Loss 0.2 Unacc 0.2
487.1	10		SLS gr. to gn. gr. s to mod hd. sandy, gradationaly. interbdd. w/ fine g ss throughout. mech bkn. 484.0-486.8 ang. pl. @ 30° 486.8-486.7 ft. stained (Scattered spots) 486.1-485.4 sh. 487.0-486.6		10.1	TP 9.7
	11					
	12				4	TI Depth 10.6 Pull #4 Start 10:00 End 10:15 Time 15 Drl 15 Ran 3.8 Rec 3.2 Loss 0.6 Unacc 0.6
483.2	13					TP 13.5
	14		SS. gr. to ltgr. mod hd f to med gr. slightly micc		14.1	TI Depth 14.1 Pull #5
	15					
	16				5	Start 10:21 End 10:38 Time 17 Drl 17 Ran 4.1 Rec 4.1 Loss 0 Unacc 0
479.1	17					TP 17.6
	18		SLS gr. s. to med hd. gradational w/sh @ top to sandy @ bottom bkn. pl. w/ 0.2. spacing poss. cl sams cl. Scam. 48		17.6	
	19				6	TI Depth 18.1 Pull #6 Start 10:58 End 11:06 Time 8 Drl 8 Ran 0.9 Rec 0.9 Loss 0.1 Unacc 0.1
						TP Depth 19.2

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MAR 71 (TRANSLUCENT)

PROJECT  
Gallipolis Lock & Dam  
HOLE NO.  
R34.1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R 34/1		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
Gallipolis Lock & Dam		ORH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				6	Pull # 7
474.6	22				21.0	START 12:06 End 12:33 Time 17 Drl 17
	23		SS lt gr. med. hd med. to fine g. mic. occ. x-bedded. mech. chipped 469.8 - 469.1		7	Ran 8.2 Rec 8.4 Loss 0 Unacc 0
	24				24.9	
	25					
	26					
	27				8	TP Depth 26.7
	28				28.2	
	29					TP Depth 28.6
	30				9	Pull # 8 START 12:50 End 1:10 Time 20 Drl 20
	31					Ran 10.0 Rec 10.0 Loss 0 Unacc 0
	32				32.1	
	33					
	34				10	
	35				35.7	
459.8	36				11	
	37		Bottom Hole		36.9	TP Depth 36.7
	38					

ENG FORM  
JAN 67

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 828 - 503

PROJECT

Gallipolis Lock & Dam

HOLE NO.

R 34/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		4X 5 1/2"	
3. DRILLING AGENCY		W. G. JAGURS		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M. S. L.	
4. HOLE NO. (As shown on drawing title and file number)		R. 34/2		12. MANUFACTURER'S DESIGNATION OF DRILL		"B" 57	
5. NAME OF DRILLER		STEVE FLY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		1	
7. THICKNESS OF OVERBURDEN		496.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		460.0		16. DATE HOLE		STARTED 12-12-88 COMPLETED	
9. TOTAL DEPTH OF HOLE		36.8		17. ELEVATION TOP OF HOLE		496.8	
				18. TOTAL CORE RECOVERY FOR BORING		39.8 %	
				19. SIGNATURE OF INSPECTOR		JET	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.8	1		SS lt gr., mod. hd, med to coarse grained, sli, mic. occ x-bed - surface tra kage: 496.8 - 496.6 redrilled 491.9 - 491.6		1	Pull #1 START 11.17 End 11.27 Time 10 Dri 10 Ran 4.9 Rec 4.9 Loss 0 Unacc 0	
	2						
	3						
	4				3.8		
	5						
	6				2	TI Depth 5.1 TP 4.9 Pull #2 START 12.12 End 12.20 Time 8 Dri 8 Ran 2.6 Rec 2.5 Loss 0.1 Unacc 0.1	
489.3	7				6.9		
	8		inc. r. br. s. nioff. w/ gr f gn cl bkn 488.9 - 488.6				
487.9	9				3	TI & TP Depth 7.5 Pull #3 START 12:34 End 12:56 Time 21 Dri 21 Ran 3.2 Rec 2.9 Loss 0.3 Unacc 0.3	
	10		SLS gr. to. gn. gr., s to med hd. cl bkn 487.9 - 487.7 487.2 486.9 Sandy blue 486.1		9.9		
485.1	11					TP 10.7	
	12		SS gr. mod. hd. s. to med. q. & w/depth gradational contact. w/ upper sls		4	TI Depth 11.3 Pull #4 START 1.17 End 1.41 Time 24 Dri 24 Ran 9.9 Rec 10.0 Loss 0 Unacc 0	
	13				13.7		
	14						
	15						
	16				5		
479.2	17				17.3		
	18		SLS gr to gn. gr. s. to med hd. bkn 477.5 - 477.8 Sh. scum 478.7 - 478.5				
478.3	19		SS. gr. to lt. gr. mod. hd. s. to med g. mic. occ. x bedded (calcite f. l. bed)		6		

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MAR 71 (TRANSLUCENT)

PROJECT HOLE NO.  
Gallipolis Lock & Dam R 34/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
Gallipolis Lock & Dam				ORH-CD		2	
ELEVATION				% CORE RECOVERY		BOX OR SAMPLE NO.	
DEPTH				CLASSIFICATION OF MATERIALS (Description)		REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
LEGEND							
	21					20.7	TI & TP 20.6 Pull # 5
	22						Start 2.00 End 2.25
	23					7	Time 2.5 Dri 2.5 Ran 10.0 Rec 10.0
	24						Loss 0 Unacc 0
	25					24.3	
	26					8	
	27						
	28					28.0	
	29					9	
	30						
	31					31.4	TI Depth 34.6 TP 34.5 Pull # 6
	32						START 2:48 End 3:08
	33					10	Time 2.5 Dri 2.5 Ran 7.5 Rec 7.6
	34						Loss 0 Unacc 0
	35					35	
	36						
460.0	37					11	
458.7	38					38.1	TI Depth 38.0 IP 38.2

ENG FORM 1836-A (NR 1110-1-1001)

GPO 1980 OF - 628 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

R34/2



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
LOCATION (Coordinate or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		M.S.L.	
2. DRILLING AGENCY		W. G. JAMES		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R 35		12. MANUFACTURER'S DESIGNATION OF DRILL		"B" 53	
5. NAME OF DRILLER		DAVE HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED NA UNDISTURBED NA	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		496.9		15. ELEVATION GROUND WATER		NA	
8. DEPTH DRILLED INTO ROCK		460.		16. DATE HOLE		STARTED 12-10-88 COMPLETED 12-12-88	
9. TOTAL DEPTH OF HOLE		36.9		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		36.9 %	
				19. SIGNATURE OF INSPECTOR		JST	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.9	1		SS lt. gr., mod. hd., mod. to c gr. sli. mic. sli Fe. sta. 496.9 - 496.5		1	Pull # 1 START 2:10 End 2:26 Time 16 Dri 16 Ran 4.9 Rec 4.9 Loss 0 unacc 0
	2					
	3				3.3	
	4					
	5					
	6				2	TI & TP 4.9 Pull # 2 START 2:41 End 2:50 Time 9 Dri 9 Ran 2.8 Rec 2.8 Loss 0 unacc 0
489.9	7		INC. lt gr. s. cl.		6.7	
489.2	8		SLS gr. to gr. gr. s., to med. hd. gradational w/sh @ top to sa. @ bot. mech. bkn. 489.2 - 488.9 w/ poss loss. sandy blow 488.2		3	TI Depth 7.8 TP 7.7 Pull # 3 START 7:45 End 7:59 Time 14 Dri 14 Ran 8.4 Rec 2.1 Loss 0 unacc 0
	9					
	10				10.1	TI & TP depth 10.1 Pull # 4 START 8:20 End 8:42 Time 22 Dri 2.2 Ran 3.0 Rec 3.2 Loss 0 unacc 0
484.4	12				4	
	13		SS gr. mod. hd. f. to med. gr. gradational contact w/ upper SLS		13.3	TP 13.1 TI Depth 13.8 Pull # 5 START 9:03 END 9:24 Time 21 Dri 21 Ran 5.0 Rec 5.0 Loss 0 unacc 0
	14					
	15				5	
480.5	16					
	17		SLS gr., soft. to mod hd. s. below 478.6 bkn (Sev.) 480.5 - 480.2 bkn pl. ~ 0.2' spacing w/ CL. scams 479.9 int. bed. claystone, lt. gr. s-s cl. 479.9 - 479.8, 479.3 - 478.8 interbed w/ SS. gr. med hd. f.g. 478.6 - 476.1		17	
	18					
	19				6	TP 18.1 TI Depth 18.6 Pull # 6

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT Gallipolis Lock & Dam HOLE NO. R 35/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. R35/1	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
Gallipolis Lock & Dam			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.1	21		SS. gr. to lt. gr. med hd. f. t. med gr. mic. grad. cont. w. s.l.s. lt. blk. w/ cl scam. 460.6 - 460.4 mech. blk. 459.3 - 459.6		20.5	Pull # 6 START 10.10 End 10.33 Time 23 Dri 23 Ran 8.8 Rec 8.9 Loss 0 Unacc 0
	22				7	
	23					
	24				23.9	
	25					
	26				8	
	27					
	28				27.5	TI Depth 27.2 Pull # 7
	29				9	START 10.50 End 11.11 Time 21 Dri 21 Ran 9.9 Rec 10.1 Loss 0 Unacc 0
	30					
	31			31.1		
	32					
	33			10		
	34					
	35			34.8		
	36			11		
460.0	37		Bottom Hole		37.3	TI Depth 37.0 TI Depth 37.3
459.6	38					
	39					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF-828-603

PROJECT: Gallipolis Lock & Dam HOLE NO. R35-1/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS Lock+Dam		ORD		ORH-CD			
2. LOCATION (Coordinates or Station) MONO R-35 STA 10+58.8				10. SIZE AND TYPE OF BIT 4 1/2"			
3. DRILLING AGENCY W. G. JACOBS				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) R-35/2				12. MANUFACTURER'S DESIGNATION OF DRILL B.-53 MOBILE			
5. NAME OF DRILLER DAVE HARPER				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
7. THICKNESS OF OVERBURDEN 5 497.0				15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 90.3				16. DATE HOLE 12/28/88		STARTED 12/28/88	
9. TOTAL DEPTH OF HOLE 446.7				17. ELEVATION TOP OF HOLE 497.0		COMPLETED 12/28/88	
				18. TOTAL CORE RECOVERY FOR BORING 38.9			
				19. SIGNATURE OF INSPECTOR L.M.D.			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.0	1		SANDSTONE LT. GR, M.H.-H, M-GF.			PULL #1 START 18:13 END 18:26 TIME 13min DRL 13min RAN 9.7 REC 4.5 LOSS 0 UNACCD	
	2		FE SURFACE STAINED				
	3		497.0 - 496.8, SH/				
	4		STAINERS 491.9, 490.5		3.7		
	5		480.8			DEP 9.7 TIDEP 9.5	
490.7	6				2	PULL #2 START 18:45 END 18:55 TIME 10min DRL 10min RAN 1.7 REC 1.9 LOSS 0 UNACCD	
	7		ICK R-BR, S, MOTTED w/sgnsg		7.0	DEP 6.9 TIDEP 6.3	
488.9	8		SAT, LTR 490.7-490.3			START 19:07 END 19:25 TIME 18min DRL 18min RAN 1.9 REC 1.7 LOSS 0.3 UNACCD	
	9		SLS GR-Sgngr, S-M.H, Sa		3	DEP 7.8 TIDEP 7.7	
	10		GRADATIONALLY, Intrabdtl		10.2	PULL #4 START 19:35 END 19:37 TIME 2min DRL 2min RAN 5.0 REC 1.5 LOSS 0 UNACCD	
	11		w/fg. ss, BKN 488.6		4	DEP 12.8 TIDEP 12.6	
	12		-488.4, 478.1-477.9, L/MY			PULL #5 START 20:40 END 20:50 TIME 10min DRL 10min RAN 1.3 REC 3.9 LOSS 0.5 UNACCD	
	13		25° PN/W SLK 488.9,		13.9	DEP 19.1 TIDEP 13.8	
	14		488.3, SL 18KN 488.6			PULL #6 START 21:02 END 21:22 TIME 20min DRL 20min RAN 4.6 REC 1.1 LOSS 0 UNACCD	
	15		-489.3, BKN PNW/SPAC		5	DEP 18.7 TIDEP 14.9	
	16		0.2 484.3-482.7		17.9	PULL #7	
	17				6	(CONT)	
	18				(CONT)	(CONT)	
477.2	19						
	20						

ENG FORM 1836  
MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS Lock+Dam HOLE NO.  
R-35/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 497.0		Hole No. R-35/2	
PROJECT GALLIPOLIS Lock & Dam			INSTALLATION ORH-CP			SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		SANDSTONE		6	PULL #7	
	21		GR-LTGR, M.H, FG.		21.0	START 21:45	
	22		GRADATIONAL CONTACT W/			END 22:10	
	23		UPPER SLS - SLT 977.8-979.0		7	TIME 35min	
	24		F-M.G. below 972.3, small			DPL 35min	
	25		sidecite NOT 970.9		24.5	RHW 6.8	
	26					REC 9.6	
470.5						LOSS 0	
	27		SLS			UNACC 0	
469.0			GR, M-H, SA few occ dyr		8	DEP 29.7 DEP 29.5	
	28		NOT, FC STAINED 469.9-469.8			PULL #8	
	29		SANDSTONE			START 27:35	
	30		GR-LTGR, M.H-H			END 28:15	
	31		F-M.G. mic, few occ			TIME 40min	
	32		SM PYR NOT 968.5-968.0			DPL 40min	
	33		NUM SLS FRAG 468.0-		28.2	RHW 9.5	
	34		467.7, calc con 469.6-468.4			REC 10.5	
	35		SH SPAM LHW 460.6-460.5		9	LOSS 0	
	36					UNACC 0	
459.9							
	37		SLS				
458.6			GR. M.H-S INT+Pb in CLS				
	38		459.7-459.9, 459.9-459.3				
	39		INT+Pb in S.S. GR. M.H.				
	40		P.G. 458.9-458.7				
	41						
	42						
	43						
	44						
						DEP 39.2 TIDEP 39.0	
						PULL #9	
						START 23:29	
						END 23:30	
						TIME 6min	
						DPL 6min	
						RHW 6.1	
						REC 4.4	
						LOSS 0	
						UNACC 0	
						TIDEP 38.4	
						DEP 40.3	

ENG FORM 1036-A

(ER 1110-1-1801)

OPD 1980 OF - 628-603

PROJECT

GALLIPOLIS Lock & Dam

HOLE NO.

R-35/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		CRD		ORH-CD		SHEET 1 OF 4 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" X 5/8"	
3. DRILLING AGENCY		W. G. JACOBS		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-36/1		12. MANUFACTURER'S DESIGNATION OF DRILL		G-57 MOBILE	
5. NAME OF DRILLER		POWELL NORRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> UNCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 497.0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		40		16. DATE HOLE		STARTED 11/3/89 COMPLETED 11/3/89	
9. TOTAL DEPTH OF HOLE		457.0		17. ELEVATION TOP OF HOLE		497.0	
				18. TOTAL CORE RECOVERY FOR BORING		46	
				19. SIGNATURE OF INSPECTOR		JMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
497.0	1		SAND STONE, SLY., M-CG.; m.h.; MGR. M.C.; 0.1 LC BTWN 0.0 & 5.0 (Mech) V.S. CONTACT			PULL #1 START 3:37 END 3:50 TIME 13 DRL 13 RAN 6.7 REC 4.9 LOSS 0.1 UNACC 0.1
	2					
	3					
	4				3.7	
	5					
	6					
	7					
490.3	8		ICL P. BR / GREENISH, G.R.S. SLK, V BKN. GRINDING		72	PULL #2 START 4:00 END 4:25 TIME 25 DRL 25 RAN 6.3 REC 6.4 LOSS 0.6 UNACC 0.6
488.4	9		Inter Bedd CLS / SS		3.	
	10					

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(TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS LOCK & DAM R36/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.0		Hole No. R36/1		
PROJECT Gallipolis Lock & Dam		INSTALLATION ORH-CD		SHEET 2 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLT/SS, gr. occ shy SMOOTH HORPTG @ 8.7, 9.3, 12.4, 13.7 0.6 LC btwn 5.0 & 12.0		3	
	11				11.4	
	12		CL PROB IN 6.7-8.0 HREN. GRADING SS/CLS THROUGHOUT CLS SEAM @ 16.5-16.9 W/SLI WEN C.1 LAMIN N. 6-16.7 GRADING INTO SHY, fig. m.h. W/THRU. DK GR.			T-DEP 12.0
	13				4	DEP 13.0 PULL # 3
	14		shy. STGS.			START 4:45 END 5:15 TIME 30 DRL 30 RHN 6.4 REC 7.4 LOSS 8 LUNHCC 8
	15				14.7	
	16					
	17				5	
	18					
	19				18.2	
487.6						DEP 19.4 T-DEP 19.5
	20		SANDSTONE shy, fig. m.h. w/THRU dk. gr. shy, STGS. SA. CONTENT INCREASING w/depth		6	PULL # 4
	21					
	22				21.8	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
R36/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		3 OF 4 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		SANDSTONE			PULL #4
			Sly. fig. m.h., w/			
	23		THRU dk. gr. sly.			START 5:40
			STGS. SAND			END 6:05
			CONTENT INCREASING	7		TIME 25
	24		w/depth.			DRL 25
						RAN 9.7
						REC 10.3
	25					LOSS 0
						UNACC 0
					25.4	
	26					
	27				8	
	28					
	29				29.0	
						DEP. TO DEP 29.6
	30					PULL #5.
						START 6:25
	31			9		END 6:55
						TIME 30
						DRL 30
						RAN 10.5
						REC 10.3
						LOSS 0
						UNACC 0
					32.6	
	32					
	33				10	
	34		(CONT)	(CONT)	(CONT)	(CONT)

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-319-243

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. R3611

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 4790		Hole No. R3611	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION DRH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		SAND STONE shy fig m.h. w/ THRU CLGRSKY, STGS SAND CONTENT INCREASING		10	PULL #5
461.5	35					
	36		INTER bedded. shs/ss		36.3	
	37					
459.5	38		ICL RIBB S.			
458.1	39		SAND STONE GR-SNGR m.g. m.h.		11	
457.0	40		BOTTOM HOLE		40.0	I DEP 39.7 DEP 40.0
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

R3611



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		ORD		ORH-CP		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4YSH	
3. DRILLING AGENCY		MONO R-36 STA 1010A		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L	
4. HOLE NO. (As shown on drawing title and file number)		W. B. JAOUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53-MOBILE	
5. NAME OF DRILLER		R-3612		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		STEVE FRY		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		37.5		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		459.7		16. DATE HOLE		STARTED 12/29/88 COMPLETED 12/29/88	
9. TOTAL DEPTH OF HOLE		497.2		17. ELEVATION TOP OF HOLE		497.2	
10. SIGNATURE OF INSPECTOR		JMD		18. TOTAL CORE RECOVERY FOR BORING		37.5	
11. SIGNATURE OF INSPECTOR		JMD		19. SIGNATURE OF INSPECTOR		JMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
497.2	1		SANDSTONE			PULL #1
	2		LTGR, M.H.-M.H. M-CGR.			START 7:55
	3		BLN @ SURFACE + mech		1	END 8:20
	4		Pounded 497.2-497.1			TIME 25min
	5		FE SURFACE STAINED			DRL 25min
	6		497.2-496.9		3.9	RAN 5.0
497.4	7					REC 4.8
	8					LOSS 0
	9					UNACL 0
496.5	10					TDCP 8.8
	11					DCP 3.0
	12				2	PULL #2
	13					START 8:30
	14					END 8:55
	15					TIME 25min
	16				7.7	DRL 25min
	17					RAN 4.3
	18					UNACL 0
	19					REC 4.3
	20					LOSS 0
	21				3	TDCP 8.9
	22					DCP 9.1
	23					PULL #3
	24					START 9:15
	25					END 9:28
	26				11.0	TIME 13min
	27					DRL 13min
	28				4	RAN 9.9
	29					REC 1.8
	30				13.3	LOSS 0
	31					UNACL 9
	32					DCP 14.0
	33				5	PULL #4
	34					START 9:35
	35					END 9:50
	36					TIME 15min
	37					DRL 15min
	38				17.0	RAN 0.3
	39					REC 4.4
	40				6	LOSS 0
	41					UNACL 0
	42					PULL #5
478.9	43					TDCP 18.2
	44					
	45					
	46					
	47					
	48					
	49					
	50					
	51					
	52					
	53					
	54					
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	99					
	100					

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT

GALLIPOLIS LOCK + DAM

HOLE NO.

R-3612

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. R-36/2	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS Lock & DAM			OPH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			PULL #5
	21		LTGR-GR, M-H, F-M, GR		6	START 10:15
	22		mic. GRAD, CONTACT w/upper		21.2	END 10:30 LOSS #
	23		SLT, w/phy nod.		7	TIME 15min UNACL
	24		SLT-479.2-479.0			DAL 15min
	25		SLT-FGR ABOVE 476.0			PAN 10.0
	26		COL-CEM-473.3-471.9			REC 4.2
	27		469.5-468.0			PULL #6
	28		S. SLT FPA 470.8		24.5	START 11:00
	29		BKN 469.2-469.0, 461.8			END 11:20 DCP 29.3
	30		461.7		8	TIME 20min
	31		ANG FPA 45° 468.6-			DAL 20min
	32		468.3			PAN 4.2
	33					REC 10.0
	34					LOSS #
	35				28.1	UNACL # TIDCP 27.5
	36					DCP 27.9
	37					PULL #7
	38				9	START 11:40
	39					END 12:00
	40					TIME 20min
	41					DAL 20min
	42				31.6	PAN 9.5
	43					REC 9.3
	44					LOSS #
	45				10	UNACL #
	46					
	47				35.2	
	48					
	49				11	
	50					
459.7	51		Bottom Hole		37.5	DCP 37.4
	52					TIDCP 37.5
	53					
	54					
	55					
	56					
	57					
	58					
	59					
	60					

ENG FORM 1836-A (NR 1110-1-1001)

GPO 1980 OF-828-603

PROJECT GALLIPOLIS Lock & DAM HOLE NO. R-36/2

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS		
1. PROJECT GALLIPOLIS LOCK + DAM			10. SIZE AND TYPE OF BIT 4.5/2			
2. LOCATION (Coordinate or Station) MONO R-37 STA 10+00.8			11. DAYUM FOR ELEVATION SHOWN (TBM - HBL) M.S.L.			
3. DRILLING AGENCY W. G. JACQUES			12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-37/1			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A			
5. NAME OF DRILLER WAYNE TICE			14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 497.2			16. DATE HOLE STARTED 12/29/88 COMPLETED 12/29/88			
8. DEPTH DRILLED INTO ROCK 37.9			17. ELEVATION TOP OF HOLE 497.2			
9. TOTAL DEPTH OF HOLE 459.3			18. TOTAL CORE RECOVERY FOR BORING 37.9			
			19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE LT. GR, M.H.-H. M.-CGR. FC SURFACE STAIN 497.2			PULL #1 START 8:45 END 8:56 TIME 11 min DRL 11 min LOSS 0 RAN 9.0 UNAC 0 REL 9.0
	2		496.6, Fw, occ. CL. STAINING 493.2 - 493.0, mch chip.		1	
	3		493.5 - 493.2		3.5	
	4		BKN DN W/spacing 0.2 497.2 - 496.7, 493.2 - 492.0			DCP+TIDED 4.0
492.0	5					PULL #2 START 9:00 END 9:19 TIME 19 min DRL 19 min RAN 9.1 REL 9.2 UNAC 0 LOSS 0 DCP 8.2
	6		CLS LTGR. S. SH., N-BR mother		2	
	7		W/GR. ICL 490.8 - 490.3 BKN 490.3 - 490.2		6.9	
489.4	8					PULL #3 START 9:28 END 9:45 TIME 17 min DRL 17 min RAN 6.6 REL 6.5 LOSS 0.0 UNAC 0.0
	9		SLS GN. GR, S-M.H., gradual		3	
	10		W/SA @ Top To SA Bottom num SMALL, thin		10.9	
	11		discontinuous calcite filling during 489.4 - 489.0, calcite			
	12		489.4 - 486.8 SA gradual		4	
	13		interbedded ss below 483.8 FGRSS GR. M.H. 481.8 - 480.4, ANG FRAC ~30° @ 481.8 - 481.6 - 481.4 - 480.8		13.9	
	14					DCP 19.7 TIDED 19.4
	15					PULL #4 START 10:00 END 10:25 TIME 25 min DRL 25 min RAN 8.0 REL 8.3 LOSS 0 UNAC 0
	16				5	
	17				17.9	
	18				6	
478.6	19		SANDSTONE GR-LTGR M.H.-H. F-MGR. (CONT)		(CONT)	(CONT)
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-37/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET 2		
GALLIPOLIS Lock + DAM			ORH-CD	OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #4
	21		mic, occ pyr nod - 975.9 - 974.8, num, small s/s		21.1	
	22		FRAC 970.1 - 969.5			
	23				7	DEP 22.9 TIDEP 22.8
	24					PULL #5
	25				24.6	START 10:40
	26					END 11:08
	27				8	TIME 28 min
469.5						DAL 28 min
	28		SLS			RAV 7.1
468.9			SP, M, H, SS occ pyr nod		28.3	REC 7.2
	29		side pit nod. SACKS 968.5 - 969.1			LOSS 0
	30		SANDSTONE		9	UNACC 0
	31		small occ pyrite			DEP 30.1 TIDEP 30.0
	32		nod, incl FRAC + stringer		31.9	PULL #6
	33		468.0 - 467.5, cal-cem			START 11:20
	34		466.7 - 465.5 s/s seam		10	END 11:41
	35		459.6 - 459.5, s/s FRAC			TIME 21 min
	36		459.4 - 459.3			DAL 21 min
	37				11	RAV 7.9
459.3						REC 7.8
	38		BOTTOM HOLE		37.9	LOSS 0
	39					UNACC 0
	40					DEP + TIDEP 37.9
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF - 628-503

PROJECT

GALLIPOLIS Lock + DAM

HOLE NO.

R-37/1

DRILLING LOG		DIVISION	INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>			10. SIZE AND TYPE OF BIT <b>415K</b>		11. DATE FOR ELEVATION SHOWN (YR or M.S.L.) <b>M.S.L.</b>	
2. LOCATION (Coordinate or Station) <b>MONO R-37 STA 9+64B</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
3. DRILLING AGENCY <b>W. G. JABUES</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b> UNDISTURBED <b>N/A</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-37 1/2</b>			14. TOTAL NUMBER CORE BOXES <b>11</b>			
5. NAME OF DRILLER <b>STEVE FRY / DAVE HAPPED</b>			15. ELEVATION GROUND WATER <b>N/A</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			16. DATE HOLE STARTED <b>12/29/88</b> COMPLETED <b>12/29/88</b>			
7. THICKNESS OF OVERBURDEN <b>497.0</b>			17. ELEVATION TOP OF HOLE <b>497.0</b>			
8. DEPTH DRILLED INTO ROCK <b>39.1</b>			18. TOTAL CORE RECOVERY FOR BORING <b>37.7</b>			
9. TOTAL DEPTH OF HOLE <b>457.9</b>			19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE LT. GR. MH-MH, M-CFR BKN 497.0-496.5, Fc STAIN 496.1-495.5 SH SCAM 493.5-493.3			PULL #1 START 12:45 END 1:00 TIME 15min DRL 15min RAN 9.0 REC 9.0 UNACCD LOSS 0 DCD 9.0
493.0	4		I CL E-BL, S-VES., MOTTLED W/GR + GN GR, LT. GR, Fc 492.7 + BKN, SCL. BKN 491.7-491.0, 490.3-490.0, 489.9-489.2 BKN 490.3-492.1			PULL #2 START 1:10 END 1:25 TIME 15min DRL 15min RAN 5.0 REC 9.5 LOSS 0 UNACCD DRL 9.0 TIDP 8.9
487.9	9		SLS GR-SNGR, S-MH, SQ SH ABOVE 486.8 + SC below BKN 487.9-486.7, 485.3-485.3 gradationally interbedded W/GR SS below 485.2			PULL #3 START 1:50 END 2:15 TIME 25min DRL 25min RAN 9.8 REC 9.8 LOSS 0 UNACCD
482.9	14		SANDSTONE GR-LTGR MH-MH, M-FGR mic, CAL, CPM. 482.9-482.5 487.6-481.8, FGR 478.9 num SH stringers + frags W/CAL fill vugs 466.1-465.3			PULL #4 START 2:15 END 2:30 TIME 15min DRL 15min RAN 9.8 REC 9.8 LOSS 0 UNACCD
	15					
	16					
	17					
	18					
	19					
	20		(CONT)			(CONT)

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK + DAM R-37 1/2

HOLE NO.

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				4970		R-37/2	
GALLIPOLIS LOCK & DAM				INSTALLATION		SHEET 2	
				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20						
	21		SANDSTONE		6	PULL #4	
			SH, SCAMS 4652-4650		21.5	START 2:30	
	22		464.5-464.2			END 3:15	
						TIME 45 min	
	23				7	DRL 45 min	
						RAN 10.0	
	24					REC 10.0	
						LOSS 0	
	25					UNACQ	
					25.2		
	26						
	27				8		
	28						
	29				28.8	T/DEP 28.8	
						PULL #5	
	30					START 15:35	
					9	END 16:10	
	31					TIME 35 min	
						DRL 35 min	
	32					RAN 5.8	
						REC 5.8	
						LOSS 0	
463.8	33				32.5	UNACQ	
	34		ICL		10	DRL 59.6 T/DEP 36.1	
462.2			R. BR. S. MOTTLED W/G, P, & GR				
	35		SLS			PULL #6	
			GR. S. - M. H. SA.		36.0	START 16:35	
	36					END 17:15	
						TIME 40 min	
	37				11	DRL 40 min	
459.3						RAN 6.1	
						REC 3.9	
	38		BOTTOM HOLE		37.7	LOSS 0 T/DEP 37.7	
						UNACQ	
	39						
						DRL 39.1	
	40						
	41						
	42						
	43						
	44						

ENG FORM  
APR 67

1836-A

(BR 1110-1-1801)

GPO 1960 OF - 628-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

R-37/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. 2-3811	
PROJECT		ORD		ORHCD		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinates or Station) MONO R-38 STA 9+54.8				11. DAYUM FOR ELEVATION SHOWN (TBM or BMA) M.S.L.			
3. DRILLING AGENCY W. B. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-3811				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 12/29/88 COMPLETED 12/29/88	
7. THICKNESS OF OVERBURDEN 0 497.3				17. ELEVATION TOP OF HOLE 497.3		18. TOTAL CORE RECOVERY FOR BORING 373	
8. DEPTH DRILLED INTO ROCK 39.1				19. SIGNATURE OF INSPECTOR JMD			
9. TOTAL DEPTH OF HOLE 468.2							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	1		SANDSTONE			PULL #1
	2		GR-LTGR, HARD M-CGR		1	START 12:55
	3		FC SURFACE STAIN, 497.3			END 13:00
	4		496.7, ACWOC SA STAIN		2.7	TIME 5min
	5		+ FAN THROUGHOUT			DRL 5min
	6					RAN 4.9
491.1	7		SLS		2	REL 5.0
	8		GR, S.-MH, SA BEN 490.1			LOSS 0
489.2	9		489.5		7.2	UNACQ 0
	10		ICL			DCP 5.0 TID 4.9
	11		R. BR-S. MOTTLED W/GR, -		3	PULL #2
488.2	12		GR. GR. SL			START 13:10
	13		SLS			END 13:40
	14		GR. GR. - GR S.-MH. SA			TIME 30min
	15		SA. 988.7-986. 488.2-497.5		11.0	DRL 30min
	16		SA MH 456.1 480.2, IN H/4H		4	RAN 9.8
	17		W.F. GR. SS 486.1-480.2			REL 9.7
	18					LOSS 0
481.9	19		SANDSTONE			UNACQ 0
	20		GR. M.H. F. GR		5	PULL #3
480.5	21		SLS			START 13:55
	22		GR. GR. - GR S.-MH. SA			END 14:12
	23		SANDSTONE			TIME 17min
478.5	24		GR-LTGR, MH. F-MGR-MIC		18.6	DRL 17min
	25		(CONT)		6	RAN 10.0
	26					REL 10.0
	27					LOSS 0
	28					UNACQ 0
	29					(CONT)
	30					(CONT)

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT

GALLIPOLIS LOCK + DAM

HOLE NO.

R-3811

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.3		Hole No. R-38/1	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION DRH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					PULL #3 (CONT)
	21		SANDSTONE		6	
	22		Few occ. sm. sh. stringer		22.2	
	23		+FAA9 973.9-972.9, occ			
	24		PYX. MOD 972.0-970.6		7	
	25		SLT SCAM - 469.9-469.3			DEP 24.7 TID 25.0
	26		469.3-469.2 mech chip		25.7	PULL #4
	27		466.2-465.9, CALCM.			START 14.28 END 14.51 TIME 23 min DRL 23 min RAN 10.0
	28		464.7-463.5		8	
	29				22.5	REC 7.2 LOSS 0 UNAC 0
	30					
	31				9	
	32					
	33				33.0	
463.5						
	34		ICL L.B.R. mottled w/gr, SLT, LTR			DEP 33.7 TID 33.9
462.3			FATTY CL DR. SA 463.5-463.9 SLK 463.9-463.2		10	PULL #5
	35		SLT GR. M-H, occ mottled w/gr			START 15.00 END 15.26 TIME 26 min DRL 26 min RAN 5.4
	36		300 F. 0.9 DN W SLK 460.2			
	37		460.0		37.3	REC 2.5 LOSS 0.9 UNAC 0.9
460.0			BOTTOM HOLE			TID 37.3
	38					
	39					DEP 39.1
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1980 OF - 525-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

R-38/1



DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4 VS 1/2</b>			
2. LOCATION (Coordinates or Station) <b>MONO R-39 STA 9410.8</b>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACOBS</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-38 1/2</b>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVID HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>11</b>		UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE STARTED <b>12/29/88</b> COMPLETED <b>12/30/88</b>	
7. THICKNESS OF OVERBURDEN <b>497.1</b>				17. ELEVATION TOP OF HOLE <b>497.1</b>		18. TOTAL CORE RECOVERY FOR BORING <b>37.4</b>	
8. DEPTH DRILLED INTO ROCK <b>37.4</b>				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
9. TOTAL DEPTH OF HOLE <b>459.7</b>							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		SANDSTONE LTGR, sh, m-cgr, BEN DN. .3 spacing Throughout		1	PULL #1 START 17:55 END 18:10 TIME 15min DRL 15min RAN 3.8 REC 3.5 UNAC 0 LOSS 0 TIDP 3.5 DCP 3.8	
499.7	2						
	3		ICL R-BR, S-VE.S MOTTLED W/ GR GR-GR, ss BEN 494.7-496.4		3.5	PULL #2 START 18:45 END 19:00 TIME 15min DRL 15min TIDP 3.5 RAN 2.0 REC 4.6 UNAC 0.9 LOSS 0.9 DCP 6.8	
	4		LTGR S.C. 494.7-494.5 SLT below 493.6				
492.9	5				2	PULL #3 START 19:20 END 19:30 TIME 10min LOSS 0.6 DRL 10min UNAC 0.6 RAN 2.5 REC 3.0 TIDP 3.1 DCP 4.1	
	6		SLS GR. S-MH, SA, CLS GR. S. 491.9-491.7, ICL R-BR VES. 491.7-491.6 ANG FRAC 45° 488.6- 489.2, SS SPAN 488.6- 488.4 GR M.H F.MGR. Interbed w/ Fgr. SS Below 485.5, cal. Below 482.9		7.5	PULL #4 START 20:15 END 20:30 TIME 25min DRL 25min RAN 4.9 REC 5.6 TIDP 2.7 LOSS 0 UNAC 0 DCP 3.7	
	7						
	8				3		
	9						
	10						
	11						
	12						
	13				4		
	14						
	15						
491.1	16		CLS GR. S-VE.S. SLT SPAN 485.5-480.7 FATT. 480.7- w/ coarse ss 480.7-480.5		15.0	PULL #5 START 20:50 END 21:20 TIME 30min DRL 30min RAN 6.7 REC 7.5 LOSS 0 UNAC 0 TIDP 2.2	
479.5	17				5		
	18		SANDSTONE GR, M.H, M-FGR, MIC NUM SMALL SLS FRAG. 479.6-479.1 (CONT)		18.5	(CONT)	
	19				6	(CONT)	
	20				(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
**GALLIPOLIS Lock & Dam R-38 1/2**

HOLE NO.

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-38/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock+DAM		OPH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			DCD 20.9
	21				6	PULL#6 START 21:35
	22					END 22:00
	23				23.0	TIME 25min DRL 25min RAN 5.5
473.7						
	24		SLS		7	REC 5.2
	25		GR. M.H. SH, BLN 473.5			LOSS 0
	26		473.3 scumply BLN @		25.7	UNACL 0
	27		ICL SCAM 471.7, 471.6			T/D CDP 25.9
469.5						
	28		ICL		8	PULL#7 START 22:25
	29		R. 62.5, CL, GR (cls)			END 23:10
	30		ABOVE 469.5 - 463.7, scumply		29.1	TIME 45min
	31		BLN 469.3 - 469.0 SLT 6-10			DRL 45min
	32		469.7		9	RAN 6.5
	33					REC 7.0
463.7						LOSS 0
	34		SLS			UNACL 0
	35		463.7 - 459.7, GR M.H.,			T/D CDP + DCP 32.9
	36		SH, BLN PN. W/O SPACING		10	PULL#8 START 7:45
	37		463.7 - 463.0			END 8:50
459.7			Bottom. HILE		34.2	TIME 55min
	38					DRL 55min
	39				11	RAN 5.0
	40					REC 4.5
	41					LOSS 0.5
	42					UNACL 0.5
	43				37.9	DCP + T/D - P 37.9
	44					

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS Lock+DAM

HOLE NO.

R-38/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		OED		ORHED		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4 1/2 V2	
3. DRILLING AGENCY		MONO P-39 STA 9+00B		11. DATUM FOR ELEVATION SHOWN (FEET or METERS)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACQUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B. 57 MOBILE	
5. NAME OF DRILLER		P-39/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		DOWELL NORRIS		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		496.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.5		16. DATE HOLE		STARTED 1/3/89 COMPLETED 1/9/89	
9. TOTAL DEPTH OF HOLE		458.3		17. ELEVATION TOP OF HOLE		496.8	
				18. TOTAL CORE RECOVERY FOR BORING		37.9	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.8	1		SANDSTONE LT GR. H, M-CGR. FC			PULL #1	
	2		SURFACE STAINED 496.8		1	START 8:30	
	3		496.9			END 8:45	
	4					TIME 15min	
	5				3.6	DRL 15min	
						RAN 5.0	
						REC 4.8	
						LOSS 0.3	
491.7						UNAC 0.3	
	6		SLT GR. M-H, SS INT-RBT		2	Dep 5.0	
	7		W/FGR. SS MCCA BKW			PULL #2	
			491.7-491.6			TIDPSI	
488.9	8		SANDSTONE F.GR. GR. M-H THIN BD		7.5	START 8:55	
	9					END 9:20	
	10					TIME 25min	
	11				3	DRL 25min	
						RAN 9.9	
						REC 9.9	
						LOSS 0	
485.2					11.0	UNAC 0	
	12		SLT GR. M-H, SS INT-RBT			TID-P 19.9	
	13		W/FGR. SS.			D-P 15.0	
	14				18.7		
	15					PULL #3	
481.1	16		SLT S. GR. SH.		5	START 10:05	
479.8	17					END 10:40	
	18		SANDSTONE GR. H-M H, M-FGR.			TIME 35min	
	19		SHALE SPAM (BKW) 476.0		17.7	DRL 35min	
	20		477.8 (CONT)		8	RAN 10.8	
					(CONT)	REC 10.2	
						LOSS 0	
						UNAC 0	
						(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM P-39/1

HOLE NO.

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. R-39/1	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
6ALLIPOLIS Lock + Dam				496.8 ORH-CD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		SANDSTONE		6	PULL #3	
	21		OCC SH, STAINING 479.5		21.3		
	22		473.6				
473.6	23				7		
	24		CLS				
	25		GR, S, SH, OCC SLT,				
471.2	25		SECURSH BLN 472.6-474.6				
	26		ICL		25.6	D-P+TIDP 25.6 PULL #4	
	27		R. BR, S, OCC MOTTLED			START 11:10 END 11:25	
	28		W/GR-GN GR, NUM. SLT		8	TIME 15min TIDP 27.1 DRL 15min RAW 3.1	
	29		Mech BLN 469.7-469.5		28.9	D-P 28.3 REC 1.7 LOSS 0.2 UNAC 0.2	
	30		461.9-461.6. SLT Below			PULL #5 START 8:31 END 9:13 TIME 42min	
	31		469.6 W/MORE GR		9	DRL 9min RAW 8.3 REC 6.6 LOSS 1.3 UNAC 1.3	
	32						
	33				32.8		
	34						
	35				10	PULL #6 START 9:40 END 9:56 TIME 16min DRL 16min RAW 3.5 REC 3.5 LOSS 0 UNAC 0	
459.4	37		Bottom Hole		37.9	D-P+TIDP 38.5	
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT 6ALLIPOLIS Lock + Dam HOLE NO. R-39/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET / OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM		ORD		ORH-10			
2. LOCATION (Coordinate or Station) MOND R-39 STA 8+60B				10. SIZE AND TYPE OF BIT 4x5H		11. DATUM FOR ELEVATION SHOWN (FSS or BSL) M.S.L.	
3. DRILLING AGENCY W. B. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-39/2				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DOWELL MORIS				14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN Ø 497.9				16. DATE HOLE STARTED 12/29/88 COMPLETED 12/30/88			
8. DEPTH DRILLED INTO ROCK 90.5				17. ELEVATION TOP OF HOLE 497.9			
9. TOTAL DEPTH OF HOLE 956.9				18. TOTAL CORE RECOVERY FOR BORING 405		19. SIGNATURE OF INSPECTOR LMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.9	1		SANDSTONE LTGA, H, M-LGR, FC			PULL #1 START 16:35 END 16:55 TIME 20min DRL 20min RAN 5.0 REL 9.8 LOSS Ø UNAC Ø	
493.9	4		+ FRAG		37		
492.9	5		SLS GN-GR S, SH CLS-AM 492.9			DEP 5.0 TID-25.1	
	6		SANDSTONE GR-LTGA, M.H, V-F-		2	PULL #2 START 17:10 END 17:35 TIME 25min DRL 25min RAN 11.2 REL 9.4 LOSS Ø UNAC Ø	
	7		M.GR. CCC MIC, V-F GR		73		
	8		TO SLT ABOVE 490.1, CCC				
	9		IRON STAIN 488.1-487.2		3		
	10		CLL-CLM. 485.8-484.9				
	11		SMALL SLS, FRAG. 482.6-		10.9		
	12		482.0, SCARPLY BKN		4		
	13		SH 5°AM 482.0-481.7				
	14		SH STAINERS 479.8		19.5		
	15		- 479.5				
	16				5	TID-2+DCA 16.2 PULL #3	
	17					START 18:20 END 18:55 TIME 35min DRL 35min RAN 8.8 REL 10.1 (CONT)	
479.3	18		SLS		18.1		
	19		GR, S, SH, CLS ABOVE 478.9		6		
	20		BKN 478.9-478.5, 477.8-477.3 (CONT)		(CONT)		

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PROJECT GALLIPOLIS LOCKS + DAM HOLE NO. R-39/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock+Dam		ORH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
477.2	20		SLS		6	PULL #3
	21		SANDSTONE		21.9	LOSS 0.9
	22		7R, M.H, F-MGR., FRAC			UNACCL 0A
	23		477.0-476.5		7	
473.1	24					
472.3	25		SLS			TIDCP 29.4
	26		GR. S. SHALEY			D-P 25.0
	27		CLS		25.5	PULL #4
	28		7R, S, CLAYEY, BKN			START 18:55
465.4	29		471.3-471.1, 468.6-468.4		8	END 21:50
	30					TIME 2HR 55min
	31					DRL 2HR 55min
	32		ICL			RAN 8.2
	33		R. DR, S, OCC MOTTLED W/		28.0	REC 6.4
	34		GR-GNGR. SCUPPLY BKN			LOSS 0
	35		465.7-465.7, 468.4-467.8		9	UNACCL 0
	36		467.1-466.3, Fe STAIN, FGR			
	37		SS 466.3-466.2 SLT BLOW			TIDCP 32.1
465.1	38		466.2		32.3	
	39		CLS			
	40		GR. S, SH, OCC MOTTLED W/			D-P 33.2
	41		R. DR - GR - GR			PULL #5
462.7	42				10	START 10:45
	43		ICL			END 11:45
	44		R. DR, S, SH, MOTTLED			TIME 1HR
	45		W/occ GR-GNGR., M-		35.3	DRL 1HR
	46		SCUPPLY BKN THROUGHOUT			RAN 4.7
	47					PULL #6
	48					START 8:00
	49					END 8:21
	50					TIME 21min
456.9	51		Bottom HOLE		11	DRL 21min
	52					RAN 5.2
	53					REC 2.6
	54					LOSS 2.6
	55					UNACCL 2.6
	56				40.5	D-P 40.5
	57					
	58					
	59					
	60					

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT

GALLIPOLIS Lock+Dam

HOLE NO.

R-39/2

DRILLING LOG		DIVISION	INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM			10. SIZE AND TYPE OF BIT 4 1/2"		11. DATUM FOR ELEVATION SHOWN (FTH = REL.) M.S.L.	
2. LOCATION (Coordinates or Station) MONO R-40 STA 8+50.8			12. MANUFACTURER'S DESIGNATION OF DRILL B. 53-MOBILE			
3. DRILLING AGENCY W. G. JAGUES			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
4. HOLE NO. (As shown on drawing title and file number) R-90/1			14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY			15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 1/3/09 COMPLETED 1/4/09	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			17. ELEVATION TOP OF HOLE 997.4			
7. THICKNESS OF OVERBURDEN @ 497.4			18. TOTAL CORE RECOVERY FOR BORING 37.8			
8. DEPTH DRILLED INTO ROCK 38.5			19. SIGNATURE OF INSPECTOR JMD			
9. TOTAL DEPTH OF HOLE 458.9						
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
997.9	1		SANDSTONE LTGR. H. M-CGR, CCC			PULL #1 START 6:50 END 7:09 TIME 19min DRL 19min RAN 4.6 REC 4.6 LOSS 0 UNACCL 0 T/D 9.6 D-C 9.9
997.9	2		MIC, FC SURFACE		1	
	3		STAIN 997.9-997.1		3.6	
	4					
	5					
997.9	6		CLS GR. S. SA		2	PULL #2 START 7:16 END 7:33 TIME 17min DRL 17min RAN 4.6 REC 4.1 LOSS 0 T/D 9.7 D-C 9.9
997.7	7		CLS GR. M.H. SA.		7.2	
997.6	8		SANDSTONE GR-LTGR, M.H.-HH,		3	PULL #3 START 8:30 END 9:07 TIME 37min DRL 37min RAN 8.9 REC 10.0 LOSS 0 UNACCL 0 T/D 9.7 D-C 9.9
	9		F-M GR, VEF-FSE.			
	10		SLT ABOVE 981.9, F-MGR		10.7	
	11		Below, CGL CCM 981.4-			
	12		997.3, ANG. FRAC.		4	
	13		480.8-980.6		14.9	
	14					
	15				5	
	16					
	17					
	18				18.0	
	19				6	T/D 27.0 D-C 18.7 PULL #9
	20				(CONT)	(CONT.)

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-90/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS LOCK DAM		ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			
	21				6	PULL #4
476.6					21.4	START 9:25 END 10:05 TIME 40min DRL 40min RAN 10.2 REC 11.1 LOSS 0 UNACC 0
	22		SLS			
	23		GR. S-M.H., SH, BKMPN. 1.3 SPACING, 3.5 STAMS			
	24		GR. H., F-MGR, OCC SLS		7	
	25		FRAG. 975.9-975.8, 975.5-979.8, 979.6-979.9, CLS, GR, S			
	26		SH. 979.0-972.9, SLT w/ BLK 971.9-971.2		25.2	
470.8						
	27		CLS		8	
	28		GR - BR, S. Severely BKN			
	29		470.3 - 476.0, 468.7-962.5		28.9	DEPT/T/DEPT 28.4
	30		SLS GR, M-H, SH 470.0			PULL #5
466.9			469.5 AND 450 PM. W/ SLK 969.8-468.5		9	START 10:55 END 11:15 TIME 20min DRL 20min RAN 9.8 REC 9.5 LOSS 0 UNACC 0
	31		ICL		31.5	7600 39.1 DEPT 39.9
	32		GR - SNGR, BKN 405.8-			PULL #6
	33		464.8, 462.9-462.5		10	START 8:15 END 8:50 TIME 35min DRL 35min RAN 4.7 REC 4.5 LOSS 0.2 UNACC 0.2
	34		460.0-459.8, SLT w/		39.9	TIDP 39.8
	35		MORE GR below 461.5			DEPT 38.5
	36				11	
459.6					32.8	
	38		ROTTEN HOLE			
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (NR 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-40/1



DRILLING LOG		DIVISION	INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>			10. SIZE AND TYPE OF BIT <b>4 1/2"</b>		11. DAYUM FOR ELEVATION SHOWN (TBM or REL) <b>M.S.L.</b>	
2. LOCATION (Coordinates or Station) <b>MDNO R-40 STA 8+10.8</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>	
3. DRILLING AGENCY <b>W. G. JAOUES</b>			14. TOTAL NUMBER CORE BOXES <b>11</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>R-40/2</b>			16. DATE HOLE <b>12/30/89</b>		17. ELEVATION TOP OF HOLE <b>496.9</b>	
5. NAME OF DRILLER <b>STEVE FRY</b>			18. TOTAL CORE RECOVERY FOR BORING <b>39.3</b>		19. SIGNATURE OF INSPECTOR <b>JMD</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			17. ELEVATION TOP OF HOLE <b>496.9</b>		18. TOTAL CORE RECOVERY FOR BORING <b>39.3</b>	
7. THICKNESS OF OVERBURDEN <b>0 996.9</b>			18. TOTAL CORE RECOVERY FOR BORING <b>39.3</b>		19. SIGNATURE OF INSPECTOR <b>JMD</b>	
8. DEPTH DRILLED INTO ROCK <b>39.5</b>			19. SIGNATURE OF INSPECTOR <b>JMD</b>			
9. TOTAL DEPTH OF HOLE <b>457.4</b>						
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE			PULL #1
	2		LT. GR., HARD, M-CGR		1	START 9:30 END 9:45 TIME 15min DRL 15min RAW 4.1 LOSS 0 REL 9.1 UNACCL 0
	3		FC, SURFACE STAINED		3.8	DEPT/DCT 9.1
	4		496.9 - 496.7			PULL #2
	5				2	START 9:52 END 10:06 TIME 14min DRL 14min RAW 5.0 REL 5.0 LOSS 0 UNACCL 0 DEPT 3.3 TIDCT 9.1
490.8	6		SLS			PULL #3
	7		GR, M-H, SA, SH W/		7.5	START 10:23 END 10:40 TIME 17min DRL 17min RAW 3.9 REL 3.3 TIDCT 13.0 LOSS 0 UNACCL 0 DEPT 13.2
	8		BKN PN. 0.2 SPACING		3	PULL #4
	9		490.8 - 488.6, SCLCPLY		11.3	START 10:55 END 11:06 TIME 11min DRL 11min RAW 4.5 REL 4.5 UNACCL 0 LOSS 0 DEPT 18.2 TIDCT 18.0
	10		BKN 489.1 - 488.8, micch		4	PULL #5
	11		BKN 487.8 - 487.6, 489.2 -		14.6	START 11:06 END 11:17 TIME 11min DRL 11min RAW 4.5 REL 4.5 UNACCL 0 LOSS 0 DEPT 18.2 TIDCT 18.0
	12		489.7, TAIN 6H SS FGR		5	PULL #5
	13		Below 486.2		6	(CONT)
482.8	14		SANDSTONE			(CONT)
	15		LTSP-GR, M.H., FGR		18.0	(CONT)
	16		11.5R 480.1 - 477.9		6	(CONT)
	17		micch CHIPPED 477.2 -		(CONT)	(CONT)
	18		478.9, SLS, GR M.H. SA			(CONT)
	19		477.9 - 476.4, S/LT below			(CONT)
	20		476.4 (CONT)			(CONT)

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
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PROJECT

GALLIPOLIS LOCK + DAM R-40/2

HOLE NO.

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS Lock+Dam			ORHED		R-40/2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			PULL#5
475.1	21				6	START 11:21
						END 1:30
	22				21.8	Time 19 min
	23		SLS			DRL 19 min
			GR. M.H. SA., MOD TO			PAN 9.7
	24		SEVERELY BKN, 479.2-		7	REC 9.7
	25		472.9			LOSS 0
						UNACC 0
470.7	26				25.3	
	27		CLS		8	
			GR. GRN GR, S-VES, CL			Dep 27.9
	28		470.7-469.2, SLT 6 ft low 468.5			PULL#6
			SEVERELY BKN 469.5-469.2,		29.0	START 1:35
	29		468.5-467.9, ICL, R-BR			END 2:35
466.7	30		S, CL 469.2-468.5			TIME 1 HR
					9	PAN 10.0
	31		ICL			REC 6.8
			R-BR, S-VES, MOTTLED			LOSS 0
	32		W/ purplish-R, BKN 461.0-			UNACC 0
	33		465.0, SEVERELY BKN 469.9-		32.9	
462.8	34		463.8			
	35		SLS		10	PULL#7
			GR. S-M.H. SA., CCC.			START 15:50
	36		2.5 ft, MOTTLED W-R-BR			END 16:15
			462.8-459.9, BKN DR, 14		36.4	TIME 25 min
	37		SPACING S-V-R-Ly BKN			DRL 25 min
459.9			460.5-460.9			PAN 5.0
	38		ICL		11	REC 4.8
			R-BR, S-VES. CLNYEY			LOSS 0
457.6	39		BOTTOM HOLE		39.3	UNACC 0
	40					Dep 39.5
	41					Dep 39.3
	42					
	43					
	44					

ENG FORM  
JUN 67

1836-A

(SR 1110-1-1801)

GPO 1960 OF - 628-603

PROJECT

GALLIPOLIS Lock+Dam

HOLE NO.

R-40/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT GALLIPOLIS LOCK & DAM		ORD		ORH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) MONO R-91 STA 8+00.8				10. SIZE AND TYPE OF BIT 4 V5/2			
3. DRILLING AGENCY W. B. JAMES				11. DAYUM FOR ELEVATION SHOWN (TBM = MSL) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) R-411				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
5. NAME OF DRILLER WAYNE TICE				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
7. THICKNESS OF OVERBURDEN 0 497.1				15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 38.2				16. DATE HOLE STARTED 12/30/89 COMPLETED 12/30/89			
9. TOTAL DEPTH OF HOLE 457.9				17. ELEVATION TOP OF HOLE 497.1			
				18. TOTAL CORE RECOVERY FOR BORING 39.2			
				19. SIGNATURE OF INSPECTOR JMD			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE			PULL #1
	2		LT. GR., M. C. GR.		1	START 9:20
	3		FC SURFACE STAIN			END 9:31
	4		497.1-496.9, TAIN SH			TIME 11min
	5		STAINERS 490.7-490.6		3.8	DRL 11min
	6					RAN 5.0
	7					REC 5.0
	8					LOSS 0
	9					UNACC 0
	10				2	DEPT/DROP 5.0
490.6	11		SLS			PULL #2
	12		GR., M. H., SA. SPURDLY		7.5	START 9:40
	13		BLN 490.3-489.6 gradation			END 10:04
	14		Thin bed F. GR. SS below 489.6			TIME 24min
	15		SLS, SS. M. H. GR. 489.3-488.3		3	DRL 24min
	16					RAN 10.0
	17					REC 10.0
	18					LOSS 0
	19					UNACC 0
486.1	20		SANDSTONE		11.0	
	21		GR. M. H. F. - V. F. GR. SLS		4	
489.1	22		SLS			
	23		GR. S. M. H., SA. BLN. P. A.			
	24		SPRING		14.8	T/D P/D 14.8
482.3	25		SANDSTONE			DEP 15.0
	26		GR. M. H. M. - F. GR., SAND		5	PULL #3
	27		SLS F. GR. 479.4 w/			START 10:21
	28		STAINERS 479.5			END 10:42
	29				18.2	TIME 21min
479.8	30		SLS		6	DRL 21min
	31		GR. M. H. SA.		(CONT)	RAN 9.8
	32					REC 10.0
	33					(CONT)

ENG FORM 1836  
MAR 71

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PROJECT

GALLIPOLIS ROCKS & DAM

HOLE NO.

R-911

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. R-4111	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK & DAM			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.6	20		SLT GR. M-H-54		6	PULL #3
	21		SANDSTONE GR, M-H, F-VEF.			LOSS Ø UNACC Ø
479.8	22				24.9	
	23		CLS GR, S, SH. severely BKN		7	
	24		472.1 - 471.9, SLT Below			
	25		471.9			DEP 25.0 T/DCP 24.8
470.9	26				25.7	PULL #9
	27		ICL			START 11:09
	28		R-BR, S-VE.S. mottled		8	END 11:30
	29		w/GR-9NGR, BKN 469.9			TIME 21min
	30		- 469.8, 469.7 - 469.6			DRL 21min
	31		severely BKN 468.6 -			RAN 10.0
	32		466.8, 464.0 - 463.3		9	REC 9.9
	33		SLT Below 462.1			LOSS 0.6
	34		ANG. PN. 30° w/SLK			UNACC 0.6
	35		459.9 - 459.7			
	36				10	DEP 35.0 T/DCP 34.9
	37					PULL #5
	38					START 13:45
	39					END 13:57
	40					TIME 4min
	41				37.2	DRL 15min
	42					RAN 4.2
	43				11	REC 4.2
	44					LOSS Ø
457.9	37		20" - 24" HOLE			UNACC Ø T/DCP 38.5
					39.2	DEP 39.2

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 528 - 503

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-4111

Hole No. **R-4112**

<b>DRILLING LOG</b>	<b>DIVISION</b> <b>ORD</b>	<b>INSTALLATION</b> <b>ORH-CD</b>	<b>SHEET 1</b> <b>OF 2 SHEETS</b>
<b>1. PROJECT</b> <b>GALLIPOLIS LOCK &amp; DAM</b>		<b>10. SIZE AND TYPE OF BIT</b> <b>4X5 1/2</b>	
<b>2. LOCATION (Coordinate or Station)</b> <b>MONO E-91 STA 7+68.8</b>		<b>11. DATUM FOR ELEVATION SHOWN (TBM or BBL)</b> <b>M.S.L.</b>	
<b>3. DRILLING AGENCY</b> <b>W. G. JACOBS</b>		<b>12. MANUFACTURER'S DESIGNATION OF DRILL</b> <b>B-53 MOBILE</b>	
<b>4. HOLE NO. (As shown on drawing title and file number)</b> <b>R4112</b>		<b>13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN</b> <b>UNDISTURBED</b> <b>UNDISTURBED</b> <b>N/A</b> <b>N/A</b>	
<b>5. NAME OF DRILLER</b> <b>DAVE HARPER</b>		<b>14. TOTAL NUMBER CORE BOXES</b> <b>11</b>	
<b>6. DIRECTION OF HOLE</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		<b>15. ELEVATION GROUND WATER</b> <b>N/A</b>	
<b>7. THICKNESS OF OVERBURDEN</b> <b>0 497.2</b>		<b>16. DATE HOLE</b> <b>STARTED</b> <b>12/30/88</b> <b>COMPLETED</b> <b>12/30/88</b>	
<b>8. DEPTH DRILLED INTO ROCK</b> <b>38.9</b>		<b>17. ELEVATION TOP OF HOLE</b> <b>497.2</b>	
<b>9. TOTAL DEPTH OF HOLE</b> <b>458.8</b>		<b>18. TOTAL CORE RECOVERY FOR BORING</b> <b>377</b> %	
		<b>19. SIGNATURE OF INSPECTOR</b> <b>JMN</b>	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE LT. GR, H, M-CGR,			PULL #1
	2		BKN PN W/O.1 SPACING		1	START 16.50 END 17.02 TIME 12min DRL 12min RAN 5.0 REC 5.0
	3		497.2 - 496.2, NUM SH		3.7	LOSS 0 UNACQ 0
	4		STAINERS 492.8-492.9			DCP+TIDCP 5.0
	5					PULL #2
490.4	6				2	START 17.20 END 17.37 TIME 17min DRL 17min RAN 4.8 REC 4.9
	7		SLS GR-GN GR. M.H, SQ,		7.2	LOSS 0
	8		LTGR. CL SCAM 490.8-		3	UNACQ 0 TIDCP 9.6 DEP 9.9
	9		490.7 SH, BKN 490.2-			PULL #3
	10		488.9, 482.8-482.1		10.7	START 17.52 END 18.08 TIME 16min DRL 16min RAN 4.2 UNACQ 0 REC 3.7 TIDCP 13.6 LOSS 0 DCP 14.0
486.0	11					PULL #4
	12		SANDSTONE GR, M.H.F. VEF, GR.		4	START 18.20 END 18.40 TIME 20min DRL 20min RAN 4.0 UNACQ 0 REC 4.0 TIDCP 17.7 LOSS 0 DEP 18.0
484.3	13					PULL #5
	14		SLS GR. M.H, SQ		14.1	START 18.55 END 19.15 TIME 20min DRL 20min RAN 4.0 UNACQ 0 REC 4.0 TIDCP 17.7 LOSS 0 DEP 18.0
482.3	15					PULL #5
	16		SANDSTONE GR. M.H.F. GR., SH		5	START 18.55 END 19.15 TIME 20min DRL 20min RAN 4.0 UNACQ 0 REC 4.0 TIDCP 17.7 LOSS 0 DEP 18.0
	17		STAINERS 479.9-479.7		17.7	START 18.55 END 19.15 TIME 20min DRL 20min RAN 4.0 UNACQ 0 REC 4.0 TIDCP 17.7 LOSS 0 DEP 18.0
479.5	18				6	START 18.55 END 19.15 TIME 20min DRL 20min RAN 4.0 UNACQ 0 REC 4.0 TIDCP 17.7 LOSS 0 DEP 18.0
	19		SLS GR, M.H, SQ BKN PN W. SPACE 0.1 478.2-477.7		(CONT)	START 18.55 END 19.15 TIME 20min DRL 20min RAN 4.0 UNACQ 0 REC 4.0 TIDCP 17.7 LOSS 0 DEP 18.0
477.7	20		SANDSTONE (CONT)			(CONT)

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(TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **R-4112**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No. R-91/2		
PROJECT			INSTALLATION	SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM			ORH CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL#5
	21		GR - LTGR, M.H, F.GR		21.1	DRL 20 min
			GRATIADUALLY THIN			RAN 9.9
475.2	22		INTERBED W/ SAND/SLT			REC 9.9
						LOSS 0
						UNACCL 0
			CLS			T/DCP 22.7
	23		GR, S. SH, BKN PN		7	DCP 22.9
	24		@.2 SPACING, MCH			PULL#6
	25		BKN 475.1-479.5, THIN		24.9	START 19:35
	26		CL STAM 0.2 SPACING			END 20:18
	27		474.5-474.3, MCH		8	TIME 43 min
469.0	28		Below 470.4			DRL 43 min
						RAN 7.6
						REC 8.2
						LOSS 0
						UNACCL 0
	29		ICL		28.7	
	30		R. BR, S. -UES., MCH			DCP 30.5
	31		W/GR + GN GR, U.S. + CL		9	T/DCP 30.3
	32		ABOVE 463.3 / SLT BLOW			PULL#7
	33		463.3 BKN 967.9-967.6		32.9	START 21:10
	34		466.8-966.6			END 22:12
	35		SCATTERLY BKN 965.3-467.3			TIME 1HR 2 min
	36					DRL 1HR 2 min
	37				10	RAN 7.4
459.9	38		Bottom: HOLE			REC 7.0
	39					LOSS .4
	40					UNACCL .4
	41				36.1	
	42				11	
	43				37.7	T/DCP 37.7
	44					DCP 38.4

ENG FORM 1036-A

(RR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-4112

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT GALLIPOLIS LOCK DAM		ORD		ORH-20		R-42/1	
2. LOCATION (Coordinate or Station) MDNO R-42 STA 7+58.8				10. SIZE AND TYPE OF BIT 4 1/2"		SHEET 1 OF 2 SHEETS	
3. DRILLING AGENCY W. G. JACOBS				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) R-42/1				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
5. NAME OF DRILLER WAYNE TICE				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
7. THICKNESS OF OVERBURDEN 0 497.2				15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 42.7				16. DATE HOLE STARTED 12/30/88 COMPLETED 12/30/88			
9. TOTAL DEPTH OF HOLE 454.5				17. ELEVATION TOP OF HOLE 497.2			
				18. TOTAL CORE RECOVERY FOR BORING 42.7			
				19. SIGNATURE OF INSPECTOR JMD			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
497.2	1		SANDSTONE LT.GR - GR, M, M-CGR			PULL #1 START 15:00 END 15:06 TIME 6min DRL 6min RAN 5.0 REL 5.1 LOSS 0 UNACCD
	2		CCC MIC. GRATIONIAL		1	
	3		W/CONCRETE GR @ Bottom to		3.6	
	4		M.GR AT TOP CL SEAM 496.3			
492.2	5		496.0. SH STRAINERS 492.3-492.2			DECS.0 TIME 5.1
	6		SLS GR.GR - GR, S-M.H, S2		2	PULL #2
	7		CL W/SH 492.2-494.9		7.1	START 15:14 END 15:25 TIME 31min DRL 31min RAN 10.1 REL 10.0 LOSS 0 UNACCD
	8		487.0-486.9, FGR. SS.			
	9		488.4-488.0, H154 ANG		3	
	10		FAC 488.5-487.7, I		10.8	
	11		Interbedded U.F.GR. SS 1348			
	12		Below 486.9		4	
	13				14.3	
482.1	15					DEPT+T/D=15.1
	16		SANDSTONE GR - LTGR, MH, V.F-MGR		5	PULL #3 START 16:25 END 16:40 TIME 15min DRL 15min RAN 9.9 REL 10.1 (CONT)
	17		CCC MIC, H154 482.1-479.1		17.9	
	18		475.3-473.7 F-V.F. 480.7-		6	
	19		475.3, SMALL SLS F.M. 479.6		(CONT)	(CONT)
	20		(CONT)			

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PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-42/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock+Dam		ORH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #3
	21		SLS SCAM GR, M-H, SA			LOSS 0
	22		478.9-478.8, 477.7-477.9			UNACCL 0
473.9	23		475.5-475.6			
	24		SLS		7	
	25		SR, m H, SH, ANG, DN.			
	26		20° W/SLK 472.6-472.5, 471.3			Dep 25.0
470.5	27		472.2			TIDEP 25.2
	28		CLS		8	PULL #4
468.7	29		GR. S, SH, ANG, DN 20° W/SLK			START 17.10
	30		469.5, 469.2, 468.3, 468.7			END 18.15
	31		ICK			TIME 1 HR 5 min
	32		R. BR, S, MOTTLED,			DRL 1 HR 5 min
	33		W/GR. GR, SR, SLT, NCM			RAN 10.1
	34		ANG, DN, W/SLK 0°-95°		9	REC 6.2
	35		THROUGHOUT ~ 0.3 SPACING			LOSS 0.2
	36		BKN 465.1-469.0, 459.7.			UNACCL 0.2
	37		459.4, mech spin 462.8			TIDEP 31.6
	38				10	
	39					Dep 35.1
	40					PULL #5
	41					START 18.55
	42					END 19.45
	43					TIME 50 min
	44					DRL 50 min
459.5	45		BOTTOM HOLE		11	RAN 7.6
	46					REC 7.7
	47					LOSS 3.9
	48					UNACCL 3.4
	49					
	50					
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ENG FORM  
JUN 67 1836-A

GPO: 1969 OF-329-243

PROJECT  
GALLIPOLIS Lock+Dam

HOLE NO.  
R-42/1



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		ORD		ORN-CD		SHEET 1	
2. LOCATION (Coordinate or Station)		GALLIPOLIS Locks & Dam		10. SIZE AND TYPE OF BIT		4" X 5 1/2"	
3. DRILLING AGENCY		W. G. JACOUES		11. DATUM FOR ELEVATION BROWN (TBM or MSL)		MSL	
4. HOLE NO. (As shown on drawing title and file number)		R-42/2		12. MANUFACTURER'S DESIGNATION OF DRILL		D-53 MOBILE	
5. NAME OF DRILLER		DAVID HARPER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> DES. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0.0 + 97.3		15. ELEVATION GROUND WATER			
8. DEPTH DRILLED INTO ROCK		37.3		16. DATE HOLE		STARTED 1/2/89 COMPLETED 1/3/89	
9. TOTAL DEPTH OF HOLE		460.0		17. ELEVATION TOP OF HOLE		497.3	
				18. TOTAL CORE RECOVERY FOR BORING		38'	
				19. SIGNATURE OF INSPECTOR		JMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
497.3	0		SANDSTONE, SLY, M.S., M.FE, M.H.			PULL #1
	1		M.S. 10' S.S. S.S.			START 7:40
	2		LAM. 10-15, S/S			END 7:50
	3		LAM. 10-15, S/S			TIME 10
	4		LAM. 10-15, S/S			DRL 10
	5		LAM. 10-15, S/S			RAN 48
	6		LAM. 10-15, S/S			REC 5.0
	7		LAM. 10-15, S/S			LOG 0
	8		LAM. 10-15, S/S			UNACC 0
	9		LAM. 10-15, S/S			DEP 4.8
	10		LAM. 10-15, S/S			TDEP 4.8
	11		LAM. 10-15, S/S			
	12		LAM. 10-15, S/S			
	13		LAM. 10-15, S/S			
	14		LAM. 10-15, S/S			
	15		LAM. 10-15, S/S			
	16		LAM. 10-15, S/S			
	17		LAM. 10-15, S/S			
	18		LAM. 10-15, S/S			
	19		LAM. 10-15, S/S			
	20		LAM. 10-15, S/S			
	21		LAM. 10-15, S/S			
	22		LAM. 10-15, S/S			
	23		LAM. 10-15, S/S			
	24		LAM. 10-15, S/S			
	25		LAM. 10-15, S/S			
	26		LAM. 10-15, S/S			
	27		LAM. 10-15, S/S			
	28		LAM. 10-15, S/S			
	29		LAM. 10-15, S/S			
	30		LAM. 10-15, S/S			
	31		LAM. 10-15, S/S			
	32		LAM. 10-15, S/S			
	33		LAM. 10-15, S/S			
	34		LAM. 10-15, S/S			
	35		LAM. 10-15, S/S			
	36		LAM. 10-15, S/S			
	37		LAM. 10-15, S/S			
	38		LAM. 10-15, S/S			
	39		LAM. 10-15, S/S			
	40		LAM. 10-15, S/S			
	41		LAM. 10-15, S/S			
	42		LAM. 10-15, S/S			
	43		LAM. 10-15, S/S			
	44		LAM. 10-15, S/S			
	45		LAM. 10-15, S/S			
	46		LAM. 10-15, S/S			
	47		LAM. 10-15, S/S			
	48		LAM. 10-15, S/S			
	49		LAM. 10-15, S/S			
	50		LAM. 10-15, S/S			
	51		LAM. 10-15, S/S			
	52		LAM. 10-15, S/S			
	53		LAM. 10-15, S/S			
	54		LAM. 10-15, S/S			
	55		LAM. 10-15, S/S			
	56		LAM. 10-15, S/S			
	57		LAM. 10-15, S/S			
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	59		LAM. 10-15, S/S			
	60		LAM. 10-15, S/S			
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	62		LAM. 10-15, S/S			
	63		LAM. 10-15, S/S			
	64		LAM. 10-15, S/S			
	65		LAM. 10-15, S/S			
	66		LAM. 10-15, S/S			
	67		LAM. 10-15, S/S			
	68		LAM. 10-15, S/S			
	69		LAM. 10-15, S/S			
	70		LAM. 10-15, S/S			
	71		LAM. 10-15, S/S			
	72		LAM. 10-15, S/S			
	73		LAM. 10-15, S/S			
	74		LAM. 10-15, S/S			
	75		LAM. 10-15, S/S			
	76		LAM. 10-15, S/S			
	77		LAM. 10-15, S/S			
	78		LAM. 10-15, S/S			
	79		LAM. 10-15, S/S			
	80		LAM. 10-15, S/S			
	81		LAM. 10-15, S/S			
	82		LAM. 10-15, S/S			
	83		LAM. 10-15, S/S			
	84		LAM. 10-15, S/S			
	85		LAM. 10-15, S/S			
	86		LAM. 10-15, S/S			
	87		LAM. 10-15, S/S			
	88		LAM. 10-15, S/S			
	89		LAM. 10-15, S/S			
	90		LAM. 10-15, S/S			
	91		LAM. 10-15, S/S			
	92		LAM. 10-15, S/S			
	93		LAM. 10-15, S/S			
	94		LAM. 10-15, S/S			
	95		LAM. 10-15, S/S			
	96		LAM. 10-15, S/S			
	97		LAM. 10-15, S/S			
	98		LAM. 10-15, S/S			
	99		LAM. 10-15, S/S			
	100		LAM. 10-15, S/S			

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PROJECT GALLIPOLIS Lock & Dam HOLE NO. R-42/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.3		Hole No. R-42-2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLT.		3	PULL #3
					107	START 8:30
486.1	11					END 9:05
			SANDSTONE, SLT, fig., m.h., m.gr.			TIME 35
	12		w/ SLT LAM. 0 PTG.			DRL 35
			w/ TR. GR. CL. COA.		4	RAN 10.1
	13		@ 11.5 PTG. @ SLT			REC 10.1
			LAM. @ 12.7: LESS			LOSS 0
			SLT. with depth grading			UNACC 0
	14		1. SLT @ 18.8; 0.15		142	
			GR CL. @ 19.1-19.2:			
	15		PICKING UP THIN			
			DR. GR. SLT LAM			
			@ 19.2			
	16		11.2 - 22.6 TOTAL		5	
			Lithology			
	17					
	18				17.9	
	19					TIDE @ 18.0
						DEE 18.3
	20				6	PULL #4
						START 7:18
	21					END 9:55
						TIME 35
					213	DRL 35
	22				7	RAN 75
			(CONT)	(CONT)		REC 70

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-229-242

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. R-42/2

DRILLING LOG (Cont Sheet)				497.3		Hole No. R-42/2	
PROJECT		GALLIPOLIS LOCK & DAM		INSTALLATION		ORH-CD	
ELEVATION		DEPTH		LEGEND		CLASSIFICATION OF MATERIALS (Description)	
a	b	c	d	e	f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	22		SANDSTONE			PULL #4	
	23		CLS, SLY, SHY, S DK. GR, V. BKU.		7	LOSS 0 ANNACC 0	
	24		THROUGHOUT GRADING INTO SLS.				
	25				351		
	26					T DEP 263	
471.0			SLS, P. GR, S., SLS V. BKU. THROUGHOUT W/OCC. CORE LOSS (MECH)		8	DEP 26.8 PULL #5 START 10:10 END 10:30 TIME 20 DEL 20 RAIN 28 REC 3.6 LOSS 0 ANNACC 0	
	27				28.5		
	28					DEP 29.6	
	29					T DEP 299	
	30					PULL #6	
	31				9	START 10:50 END 11:07 TIME 17 DEL 17 RAIN 5.2 REC 5.6 LOSS 3.3 ANNACC 3.3	
	32					T DEP 22.8	
	33						
	34		(CONT)		(CONT)		

ENG FORM  
JUN 67 1836-A

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS LOCK & DAM R-42/2

HOLE NO.

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.3		Hole No. R42/2	
PROJECT GALLIPOLIS LOCKS & DAM			INSTALLATION ORH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		SLT. R. GR, S, SLK V BKN. THROUGHOUT W/CC, CORE LOSS. (MECH)		9.	DEP 34.8
	35				35.3	PULL #7 START 11:20 END 12:10
	36				10.	TIME 5 DRL 5 RAIN 3.6 REC 4.2 LOSS 0 UNHCC 0
460.0	37					
	38					T D I P 38.0 DEP 38.4
	39					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-242

PROJECT  
GALLIPOLIS LOCKS & DAM

HOLE NO.  
R-42/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-1D		OF 4 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" X 5 1/2"	
3. DRILLING AGENCY		Monolith R-43 STA 7+16 "B"		11. DAY OF ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACQUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		R 44/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		POWELL NORRIS		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 497.0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.9		16. DATE HOLE		STARTED 12/30/88 COMPLETED 1/3/89	
9. TOTAL DEPTH OF HOLE		458.1		17. ELEVATION TOP OF HOLE		497.0	
				18. TOTAL CORE RECOVERY FOR BORING		38.9	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		SANDSAND sky. m-c.g., m.h., gr.		1	PULL #1  START 21:00 END 21:20 TIME 20 DRL 20 RAN 5.2 REC 5.0 LOSS 0 UNACC 0	
493.1	4		ICL - S, R. BR, GREENISH GR. SLK VE S ANGLE CONTACT		3.8	DSP 5.2 TLR 25.1	
495.6	7		SANDSTONE sky. fig m. hgr HA, hld irr, t. 8.5-9.1 becoming Ltgr. in color at gr. in color to 17.9		7.3	PULL #2  START 21:35 END 22:00 TIME 25 DRL 25 RAN 10.3 REC 9.6 LOSS .3 UNACC .3	
	10		(CONT)		3	(CONT)	

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(TRANSLUCENT)

PROJECT HOLE NO.  
Gallipolis Locks & Dam R-43/1



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 4 SHEETS		
GALLIPOLIS Locks: DAM		497.0		R-43/1		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
474.5	22		SANDSTONE			PULL #3
	23		CLS; S; d.k. gr.			T/DEP 22.9
473.1	24		SLT; SA, M.G., OCC Shy. S-m.h. grading into		7	
472.0	25		ICL R. BR. / greenish			DEP 25.1
	26		3P, S, SLK, V. DKN THROUGH OUT		25.4	PULL #4
	27					START 23:00
	28					END 23:30
	29					TIME 30
	30					DEL 30
	31					RHN 3.9
	32				8	REC 6.9
	33					LOSS 0
	34					UNACC 0
	35					
	36					
	37					
	38					
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ENG FORM 1836-A

OPD. 1963 OF-328-243

PROJECT

GALLIPOLIS Locks: DAM

HOLE NO. R-43/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.0		Hole No. R-43/1	
PROJECT GALLIPOLIS Locks & DAM			INSTALLATION ORH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		Ice			PULL #6
	35		R. br / greenish gr, s, slk, u. bkn		10	START 8:40 END 9:03 TIME 23 min DRL 23 min RAN 5.0 REC 5.0 LOSS 0 UNHCC 0
	36		Through out		36.9	
	37				11	
	38					
458.1			BOTTOM HOLE		38.9	DEP 39.0 + DEP 38.9
	39					
	40					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-318-143

PROJECT GALLIPOLIS Locks & DAM  
HOLE NO. R-43/1



DRILLING LOG		DIVISION		INSTALLATION		Hole No. 1. 101	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 4 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS Lock & DAM		10. SIZE AND TYPE OF BIT 4" X 3/4"			
3. DRILLING AGENCY		MONOLITH R-43 / STA 10+48 "3"		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W.G. JACOUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		R43/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		D. HARPER / STEVE FRYE		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 497.4		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.8		16. DATE HOLE		STARTED 1/3/89 COMPLETED 1/3/89	
9. TOTAL DEPTH OF HOLE		459.6		17. ELEVATION TOP OF HOLE		497.4	
				18. TOTAL CORE RECOVERY FOR BORING		37.8	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.4	0		SHANDSTONE,			PULL #1	
	1		shy. MC. S. M. A.			START 1:15	
	2		M. GR., MIC S. GR.			END 1:25	
	3		CL. and contact			TIME 10	
	4					DRL 15	
	5					RAN 5.1	
	6					REC 5.1	
	7					LOSS 0	
	8					UNACC 0	
	9						
	10						
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PROJECT GALLIPOLIS Lock & DAM R-43/2 HOLE NO.



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			4974		R-43/2	
INSTALLATION			ORH-CD		SHEET 3 OF 4 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
474.7	22		SLs / SS		7.	PULL #4
	23		CLS			START 3:20
	24		dk. gr. s. occ SLX			END 3:40
	25		M SPACED PTGS			TIME 20
	26		W/AR. GR. CL. COA			DRL 20
	27		S. dk. GR. COA @ 23.1			RAN 7.1
	28		V. bkn. 25.3-26.1 W/			REC 7.1
	29		0.2' CC (MICH)			LOSS 0.2
470.8	30				8.	UNACC 0.2
	31		ICL			DEP/T-DEP 26.6
	32		R. br. / gr. gr. s			PULL #5
	33		VE. bkn. Throughout			START 3:45
	34		0.5 LC between			END 4:03
	35		26.6 & 30.6 O.S. LC			TIME 18
	36		btwn 32.8 & 37.8			DRL 18
	37					RAN 3.5
	38					REC 3.5
	39					LOSS .5
	40					UNACC .5
	41				9.	T/D: P = 0.6
	42					DEP 31.1
	43					PULL #6
	44					START 4:56
	45					END 5:08
	46					TIME 12 T/D: P = 2.8
	47					DRL 12
	48					RAN 3.1
	49					REC 1.7
	50					LOSS .5
	51					UNACC .5
	52					(CONT)

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-328-248

PROJECT

6AHipolis Locks & Dam R-43/2

HOLE NO.

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.4		Hole No. R-43/2	
PROJECT Gallipolis Locks & Dam			INSTALLATION ORH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL			PULL #6
			R. BR. / GR. GR. S		10.	PULL #7
	35		VE. BKN.			START 5:33
			Throughcut O.S.		35.4	END 6:00
	36		LC BTWN 32.8			TIME 27
			± 37.8			DRL 27
	37					RAN 3.4
						REC 5.0
					11	LOSS 0
						WINACC 0
459.6						T-DEP 37.8
	38					DEP / 38.1
	39					

ENG FORM 1836-A  
JUN 67

GPO 1965 OF-325-265

PROJECT  
Gallipolis Locks & Dam

HOLE NO.  
R-43/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT <b>GALLAPOLIS LOCKS &amp; DAM</b>		<b>ORD</b>		<b>CPH-CD</b>		SHEET <b>171</b> OF 4 SHEETS	
2. LOCATION (Coordinate or Station) <b>MONOLITH R-44 STA 6+74 "B"</b>		3. DRILLING AGENCY <b>W. G. JACQUES</b>		10. SIZE AND TYPE OF BIT <b>4" X 5 1/2"</b>		11. DATUM FOR ELEVATION SHOWN (TBM or BM) <b>M.S.L.</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>R-44/1</b>		5. NAME OF DRILLER <b>WAYNE TICE</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MIDDLE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN <b>0 496.6</b>		14. TOTAL NUMBER CORE BOXES <b>12</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
8. TOTAL DEPTH OF HOLE <b>457.6</b>		9. DATE HOLE STARTED <b>11/2/89</b> COMPLETED <b>11/2/89</b>		16. ELEVATION TOP OF HOLE <b>496.6</b>		17. TOTAL CORE RECOVERY FOR BORING <b>39.0</b>	
		18. SIGNATURE OF INSPECTOR <b>JMD</b>					

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE - SKY, m, c.e., m.h. m. gr.			PULL #1  START 7:30 END 7:47 TIME 17 DEW 17 RAW 4.1 REC 4.1 LOSS 0 UNACC 0
	2					
	3					
	4				3.7	
492.5	5		CLS., S., dk GREEN Problem: REEN 0.7 LG. V.S 4.1 - 4.4			PULL #2  START 10:03 END 10:25 TIME 22 DEW 22 RAW 10.4 REC 9.3 LOSS 0.7 UNACC 0.7
	6		CLS - SA, GR, m.h.		2.	
	7				2.0	
488.7	8		CLS - dk. gr, S.		3	
	9		CLS - SA, m.h., m. gr CLS. LOSS 9.1-9.2 grading			
487.7	10					

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PROJECT  
**GALLAPOLIS LOCKS & DAM R44/1**

HOLE NO.

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Locks + DAM		ORH-CD		2		
OF 4 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		SLS - SA. m.h., m.g.r. CLS. lens 9.1-9.2 Grading SS/SLS Interbedded - SS. fig m.h., gr.; SLS-m.g.r. S - m.a.		3	PULL #2
	11				10.5	
	12				4	
	13					
	14					T/DEP 14.1
	15				14.7	DEP 14.1
	16					PULL #3
	17				5	START 10:56 END 11:13 TIME 17 DRL 17 RAIV 9.8 REC 10 LOSS 0 UNACC 0
	18					
	19				18.6	
	20				6	
	21					
474.6	22		(CONT)	(CONT)	(CONT)	(CONT)

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT

GALLIPOLIS Locks + DAM

HOLE NO.

RA411

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.6		Hole No. R-44/1		
PROJECT 6 Allipolis Locks & Dam		INSTALLATION ORH-CD		SHEET 3 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
494.6	22		CLS - AKGR, S GRADING INTO		22.2	PULL #3
	23				7	
492.5	24		ICL - R. BR. / GREENISH GR, S. SLK, BKN. GRADING INTO			T/DEP 24.1 DEP 24.3
	25					PULL #4
	26				25.7	START 1301 END 1315 TIME 16 DRL 16 RAN 5.3 REC 4.8 LOSS 0 UNACC 0
	27				8	
	28					T/DEP 28.4
	29					
	30					DEP 29.6 PULL #5
	31				9	START 1330 END 1348 TIME 18 DRL 16 RAN 5.0 REC 5.3 LOSS 0 UNACC 0
463.5	33		CLS UCRG R. BR/GR, S		10	
	34		(CONT)		(CONT)	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-245

PROJECT 6 Allipolis Locks & Dam HOLE NO. R-44/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.6		Hole No. R-44/1	
PROJECT GALLIPOLIS LOCKS & DAM			INSTALLATION ORH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		CLS VCRG R.b.r./g.p.s.			T/DEP 34.2 PULL # 5 DEP 34.6
	35					PULL # 6
	36				10.	START 14:03 END 14:19 TIME 16 DRL 16 RAV 5.0 REC 4.8 LOSS 0 UNACC 0
	37				36.5	
	38				11	
457.5	39					T/DEP 39.0
	40					DEP 39.6
	41					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-242

PROJECT

GALLIPOLIS LOCKS & DAM R-44/1

HOLE NO.



DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + D				10. SIZE AND TYPE OF BIT 4x5 1/2			
2. LOCATION (Coordinate or Station) MONO R-99 STA 6+92B				11. DATUM FOR ELEVATION SHOWN (FEET or METER) M.S.L			
3. DRILLING AGENCY W.G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-99/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER DAVID HAEDER				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 1/9/89 COMPLETED 1/9/89	
7. THICKNESS OF OVERBURDEN 497.3				17. ELEVATION TOP OF HOLE 497.3			
8. DEPTH DRILLED INTO ROCK 38.5				18. TOTAL CORE RECOVERY FOR BORING 38.5 %			
9. TOTAL DEPTH OF HOLE 458.8				19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.3	1		SAND STONE shy m.-c.g. m.h. gr			PULL #1 START 9:36 END 9:50 TIME 19min DRL 19min RAN 9.9 REL 9.9 3.7 LOSS 0 UNACQ 0 DEP 9.9	
492.3	5		CLS gr. s.			PULL #2	
496.9	6		565 s, ss s-m.h. F.g		2	START 10:00 END 10:16 TIME 16min DRL 16min RAN 9.9 REL 9.9 LOSS 0 UNACQ 0 DEP 9.8	
496.1	7		SS F.g shy, m.h. m.g		7.9	PULL #3	
	8					START 10:30 END 10:55 TIME 15min DRL 15min RAN 7.7 REL 7.7 LOSS 0 UNACQ 0 DEP 17.5	
	9				3	PULL #4	
	10					START 11:17 END 12:20 TIME 57min (CONT) (CONT)	
	11				11.0		
	12				4		
	13				10.8		
	14				5		
	15				18.0		
	16				6		
	17				(CONT)		
	18						
	19						
	20		(CONT)				

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PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R49/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET /	
1. PROJECT		ORD		ORN-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		6 Allipolis Lock + Dam		10. SIZE AND TYPE OF BIT		4YS4	
3. DRILLING AGENCY		MONROE R-45 STA 6+32.8		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W.B. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		R-95/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		WAYNE TICE		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		196.6		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.4		16. DATE HOLE		STARTED 1/4/89 COMPLETED 1/4/89	
9. TOTAL DEPTH OF HOLE		499.2		17. ELEVATION TOP OF HOLE		496.6	
				18. TOTAL CORE RECOVERY FOR BORING		37.9	
				19. SIGNATURE OF INSPECTOR		JMN	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.6	1		SANDSTONE			Pull #1	
	2		Sly, m-c.g., m.H., m.g.R		1	START 11:16	
	3					END 11:40	
	4					TIME 24min	
	5					DRI 24min	
	6					RAW 4.7	
493.1	7		CLS / ICL		3.7	REC 4.9	
	8		m.d.k. gr., r. br s			LOSS 0.3	
	9					UNACCL 0.3	
	10					DEPT T/DEP 4.7	
	11				2	Pull #2	
	12					START 11:43	
	13					END 12:00	
	14					TIME 17min	
	15				7.4	DEL 17min	
488.5	16		SANDSTONE			RAW 10.0	
	17		F.g, m.h, sly m.g.s, s.s. lam			REC 10.0	
	18		Becoming mass below 10.1		3	LOSS 0.1	
	19					UNACCL 0	
	20				11.0		
	21				4		
	22						
	23				14.8	DEPT T/DEP 14.7	
	24					Pull #3	
	25				5	START 12:55	
	26					END 13:02	
	27					TIME 7min	
	28					DEL 7min	
	29				18.0	RAW 9.3	
	30				6	REC 9.1	
	31					LOSS 1.2	
	32				(CONT)	UNACCL 1.2	

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PROJECT 6 Allipolis Lock + Dam HOLE NO. R-95/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock + DAM			496.6	R-45/1		
			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	20		SANDSTONE			PULL #3
	21				6	
	22				21.7	
	23					
	24				7	DEPT/DEP 24.0
471.9	25					PULL #4
	26		ICL			START 13:31
	27		R-BR, S, SLK, BKN		25.5	END 19:18
	28		GRAINING INTO CLS			TIME 47 min
	29				8	DRL 47 min
	30					RAN 7.5
	31					REL 7.5
	32					LOSS 0
	33					UNACC 0
	34				28.1	
	35				9	DEPT/DEP 31.5
461.2	36		CLS			PULL #5
	37		VERG, R.BR/GR.S		32.6	START 19:37
	38					END 15:18
	39					TIME 41.0 min
	40				10	DRL 41.0 min
	41					RAN 5.9
	42					REL 5.9
	43					LOSS 0
459.2	44				36.2	UNACC 0
	45		Bottom Hole		11	
	46				37.4	DEPT/DEP 37.4
	47					
	48					
	49					
	50					
	51					
	52					
	53					
	54					

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLI POLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 9 X 5/8			
2. LOCATION (Coordinates or Station) MONO R-95 STA 6+00.3				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.			
3. DRILLING AGENCY W.G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-95/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A			
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 997.2				16. DATE HOLE STARTED 1/4/89 COMPLETED 1/4/89			
8. DEPTH DRILLED INTO ROCK 38.2				17. ELEVATION TOP OF HOLE 997.2			
9. TOTAL DEPTH OF HOLE 459.0				18. TOTAL CORE RECOVERY FOR BORING 38.0			
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.2	1		SANDSTONE			PULL #1	
	2		SLY, M.-C.G., M.H., G.R.		1	START 2:50	
	3					END 3:00	
	4					TIME 10min	
						DRL 10min	
						RAW 4.8	
					3.8	REC 4.8	
						LOSS 0	
						UNAC 0	
492.4						DEP + TIDEP 4.8	
	5		SLS			PULL #2	
	6		S2, S-M.H., 111.9R		2	START 3:10	
	7		0.3 S.G.R. CL. 9.8-5.1			END 3:22	
	8		V. BKN W/SM. S.S. LENS		7.1	TIME 12min	
	9		S9-7.3 W/10.4 L.C. (P.B. AREA)			DRL 12min	
482.7					3	RAW 4.6	
	10		SANDSTONE			REC 4.0	
	11		F9, SLY, M.H., M.G.R.			LOSS 0.9	
	12		CLS LEN 10.7-11.9			UNAC 0.9	
	13		BECOMING MASS, BELOW			DEP 9.9	
	14		11.9		14.1	TIDEP 9.2	
	15					PULL #3	
	16				10.7	START 3:43	
	17					END 4:15	
	18					TIME 32min	
	19				9	DRL 32min	
	20					RAW 9.8	
						REC 9.7	
						LOSS 0.3	
						UNAC 0.3	
					5		
					17.9		
					6		
					(CONT)		
						DEP + TIDEP 19.2	
						PULL #4	
						(CONT)	

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(TRANSLUCENT)

PROJECT  
GALLI POLIS LOCK & DAM  
HOLE NO.  
R-95/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-95/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
Gallipolis Lock & Dam		ORH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			
475.7	21				6	PULL #9
						START 9:35
	22		CLS		21.5	END 5:30
			S-mh, m.gr, sh, w/			TIME 55 min
	23					DRL 35 min
	24		DEC SLT LAM, HOR, CL		7	RAW 8.9
	25		COG, PTGS Throughout			REC 9.5
471.2	26				25.1	LOSS 0
						UNACC 0
	27		ICL		8	
	28		R. DR, S, SLTU. btm.			
	29				28.7	TIDE 28.7
	30					PULL #5
	31				9	START 6:50
	32					END 7:15
	33					TIME 25 min
	34				32.5	DRL 25 min
	35					RAW 5.5
	36					REC 4.0
	37					LOSS 0.4
459.2	38					UNACC 0.4 TIDE 33.1
						DCP 33.6
	39				10	PULL #6
	40					START 7:35
	41				36.2	END 7:56
	42					TIME 21 min
	43					DRL 21 min
	44					RAW 4.6
	45				11	REC 4.8
	46					LOSS 0.1
	47				38.0	UNACC 0.1 TIDE 38.0
	48					DCP 38.2
	49					
	50					
	51					
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	100					

ENG FORM  
AM 47

1836-A

(SR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

R-95/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OPH-CD		OF 4 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK DAM		3. SIZE AND TYPE OF BIT		4" X 5 1/2"	
3. DRILLING AGENCY		MONOLITH R-46/1 STA		4. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
5. NAME OF DRILLER		W. G. JACOBS		5. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
6. HOLE NO. (As shown on drawing title and file number)		R-46/1		6. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
7. THICKNESS OF OVERBURDEN		0 497.5		7. TOTAL NUMBER CORE BOXES		11	
8. DEPTH DRILLED INTO ROCK		40.1		8. ELEVATION GROUND WATER		N/A	
9. TOTAL DEPTH OF HOLE		457.4		9. DATE HOLE		STARTED 1/4/89 COMPLETED 1/4/89	
10. ELEVATION TOP OF HOLE		497.5		10. TOTAL CORE RECOVERY FOR BORING		40.1	
11. SIGNATURE OF INSPECTOR		JMD		11. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.5	1		SANDSTONE shy., m-c.g., m.h. m.g.R			PULL #1	
	2					START 4:05 END 4:25 TIME 20 DRH 4.7 KAW 4.7 REC 3.7 LOSS 1.0 UNACC 0	
494.5	3		CLS/ICL m. dk. gr., r. br., s.	3.6		T/DEP	
	4					DEP 6.0	
	5		0.4 b/w 4.7 & 8.6 1.0 LC b/w 3.0 4.7, w/6 KN AREAS			PULL #2	
	6					START 4:35 END 5:20 TIME 45 DRH 4.5 KAW 3.0 REC 1.5 LOSS 3.4 UNACC 0 T/DEP 15.1	
	7						
	8						
488.9	9		SANDSTONE				
	10						
	11		(CONT)				

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(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-46/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS LOCK & DAM			ORH-CD		2	
ELEVATION			CLASSIFICATION OF MATERIALS		% CORE RECOVERY	
a	b	c	d	e	f	g
LEGEND			REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)			
10			SANDSTONE		3.	T/Dep 10.0
11			fig. m. h, sly m.g.s s.s. lam 9.5 To 10.4 s.s. becoming MASS below 10.4		11.6	PULL #2 START 4:35 END 5:20 TIME 45 DRL 45 RAN 9.0 REC 10.0 LOSS 0.4 UNACC 0
12					4	
13						
14						
15						DEP 15.1
16					15.4	PULL #3
17					5	START 5:40 END 6:10 TIME 30 DRL 30 RAN 10.0 REC 8.1 LOSS 1.1 UNACC 0
18						
19					19.1	
20					6	
21						
22						
(CONT)			(CONT)		(CONT)	

ENG FORM 1836-A  
JUN 67

GPO 1948 OF-329-243

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. R-46/1



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			497.5	1-46/1		
INSTALLATION			ORH-CD		SHEET	
OF 4 SHEETS			3			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		SLK/CLS		6	PULL #3
	23		Interbed., m-dk GR., s-m.h. acc shy		22.9	
	24					T/DEP 24.3
	25				7	DEP 25.0
471.5	26		ICK			PULL #4
	27		S., R. br, SLK v. bkn + brought		26.4	START 6:35 END 8:00 TIME 85 DRL 45 RHIV 8.6 REC 10.5 LOSS 0 UNACC 0
	28				8	
	29					
	30				30.3	
	31					
	32				9	T/DEP 32.7
	33					
	34		(CONT)		33.7	DEP 33.6
					10	PULL #5
					(CONT)	(CONT)

ENG FORM 1836-A  
JUN 67

GPO: 1968 OF-329-243

PROJECT

GALLIPOLIS LOCK & DAM R-46/1

HOLE NO.

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CP		4		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	34		ICL			PULL # 5
	35		S, R. br, SLK			START 9:10
			U. bkn through			END 9:50
	36				10	TIME 40
						DEL 40
						RAN 6.5
						REC 3.1
						LOSS 0.2
						LIWACC 0
	37					DEP 37.6
					37.3	
	38					
	39				11	
457.9	40		Bottom HOLE		40.1	DEP 40.1 / T/DEP 40.1
						PULL # 6
	41					START 10:45
						END 11:00
	42					DEP 41.1 TIME 25
						DEL 25
						RAN 1.0
						REC 4.6
						LOSS 0
						LIWACC 0

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-245

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

R-4211

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-46/2	
1. PROJECT GALLIPOLIS LOCKE DAM		ORD		ORH-ED		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) MND R-46 STA 5+58.8		3. DRILLING AGENCY W. G. JAGUES		10. SIZE AND TYPE OF BIT 4 1/2"		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) M. S. L.	
4. HOLE NO. (As shown on drawing title and file number) R-46/2		5. NAME OF DRILLER WAYNE TICE		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN 0 497.2		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER N/A	
8. DEPTH DRILLED INTO ROCK 39.2		9. TOTAL DEPTH OF HOLE 458.0		16. DATE HOLE STARTED 1/20/87 COMPLETED 1/20/87		17. ELEVATION TOP OF HOLE 497.2	
18. TOTAL CORE RECOVERY FOR BORING 39.2		19. SIGNATURE OF INSPECTOR JMD					

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE M.A. GR M.9 FLAGGY		Box 1	PULL #1 START 14.26 END 14.30 TIME 4min DEL 4min RAW - REC 4.9
496.3	2		TO MASS 1.3 STA 206		Box 2	LOSS 0 UNACCL 0 DEP + TIDEP 4.9 PULL #2 START 14.36 END 14.37 TIME 11min DEL 11min RAW - UNACCL 0 REC 5.0 LOSS 0 DEP + TIDEP 9.9 PULL #3 START 14.54 END 15.02 TIME 8min DEL 8min RAW - REC 4.7 LOSS 0 UNACCL 0
488.5	3		CLS S. - M.A. GR UCRYS 49-39		Box 3	
	4		UCRT FRAC W/SLK 6.6 to		Box 4	
	5		SS		Box 5	
	6		CLS/SLK GRADING TOSL W/HPH		Box 6	
	7		M.A. GN, MASSIVE		Box 7	
	8		W/interbedd f9 SS. up to		Box 8	
	9		0.6 GRD. TIONAL CONTACT		Box 9	
481.6	10		SANDSTONE M.A. GR M.9 MASSIVE		Box 10	
	11		SH PARTINGS 16.6 + 170		Box 11	
	12		0.1 BKN 20 W/SLK		Box 12	
	13		FL AT END OF RUN (CONT)		Box 13	

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PROJECT GALLIPOLIS LOCKE DAM HOLE NO. R-46/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-46/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.7	20		SANDSTONE		6	PULL #5
	21		CLS		21.0	START 3:40
	22		M.H.G.R. SOLID W/			END 4:00
	23		O.I. SOFTER CL. ZONE @ 23.0			TIME 20min
	24		BECONIE SH		7	DEL 20min
	25					RAN 5.2
						REC 5.2
						LOSS 0
						UNACCL 0
476.5					29.7	DEP 29.8 T/DEP 29.6
	26		ICK			PULL #6
	27		M.H. R-GR. SLK MIDE		8	START 4:05
	28		MASS W/D-PTH			END 4:35
	29					TIME 30min
	30					DEL 30min
	31					RAN -
	32				28.2	REC 5.2
	33					LOSS 0
	34					UNACCL 0
	35				9	DEP 29.8
	36					T/DEP 29.9
	37					PULL #7
	38					START 4:55
	39				31.7	END 5:15
	40					TIME 20min
	41					DEL 20min
	42					RAN 5.1
	43				10	REC 4.1
	44					LOSS -
						UNACCL - T/DEP 29.1
458.0					34.8	DEP 34.9
	45					PULL #8
	46					START 5:35
	47				11	END 5:55
	48					TIME 20min
	49				37.2	DEL 20min
	50					RAN -
	51					REC 5.1
	52				12	LOSS -
	53					UNACCL - T/DEP 39.2
	54				29.2	DEP 39.7
	55					
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ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-46/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>R-47/1</i>	
1. PROJECT <i>GALLIPOLIS LOCK DAM</i>		<i>ORP</i>		<i>ORH-CP</i>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <i>MONU R-47/1 STA 548.0 B</i>				10. SIZE AND TYPE OF BIT <i>4154</i>		11. DATUM FOR ELEVATION SHOWN (TBM or BM) <i>MSL</i>	
3. DRILLING AGENCY <i>W. G. JAGUES</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>R-47/1</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <i>N/A</i>		UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>DAVE HARPER</i>				14. TOTAL NUMBER CORE BOXES <i>10</i>		15. ELEVATION GROUND WATER <i>N/A</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <i>1/20/89</i>		COMPLETED <i>1/20/89</i>	
7. THICKNESS OF OVERBURDEN <i>497.2</i>				17. ELEVATION TOP OF HOLE <i>497.2</i>			
8. DEPTH DRILLED INTO ROCK <i>37.2</i>				18. TOTAL CORE RECOVERY FOR BORING <i>37.2</i>			
9. TOTAL DEPTH OF HOLE <i>460.0</i>				19. SIGNATURE OF INSPECTOR <i>IMD</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
<i>497.2</i>			<i>SANDSTONE</i>		<i>Box 1</i>	<i>PULL #1</i>	
<i>496.5</i>			<i>M.H. 98. M.H. FLASSY</i>			<i>START 8:00</i>	
	1		<i>ICL</i>			<i>END 8:20</i>	
	2		<i>S, R-9R MOTTLED SOLID</i>			<i>TIME 20min</i>	
	3		<i>TO 4.9 W/0.6 ACC LOSS</i>			<i>DRL 20min</i>	
	4		<i>0-4.9, bkn &amp; crumbly</i>			<i>RAN -</i>	
	5		<i>FROM 4.9 - 8.0, w/0.5</i>			<i>REL 4.3</i>	
	6		<i>LC 4.9 to 7.8, 1.0 LC</i>			<i>LOSS 1.6</i>	
	7		<i>9.8-10.8 TOP RUN DEC</i>			<i>UNAC 0.6</i>	
	8		<i>M.H. MORE SOLID! SLT</i>			<i>TIDEP 4.4</i>	
	9		<i>BELOW 10.8</i>			<i>DEP 5.0</i>	
	10		<i>GRADING TO CLS</i>			<i>PULL #2</i>	
	11		<i>AT 12.8</i>			<i>START 8:30</i>	
	12					<i>END 8:42</i>	
<i>489.4</i>						<i>TIME 12min</i>	
	13		<i>CLS</i>			<i>DRL 12min</i>	
	14		<i>SL, M.H. JR.</i>			<i>RAN -</i>	
	15					<i>REL 4.4,</i>	
	16					<i>LOSS 0.5</i>	
	17					<i>UNAC 0.5'</i>	
	18					<i>DEP 17.8</i>	
<i>480.9</i>						<i>PULL #3</i>	
	19		<i>SANDSTONE</i>			<i>START 8:53</i>	
	20		<i>M.H. 19R, 18, 11MS</i>			<i>END 9:10</i>	
	21		<i>Found in 15s 180</i>			<i>TIME 17min</i>	
	22					<i>DRL 17min</i>	
	23					<i>RAN -</i>	
	24					<i>REL 3.5</i>	
	25					<i>LOSS 1.0</i>	
	26					<i>UNAC 1.0</i>	
	27					<i>DEP 14.4 TIDEP 10.3</i>	
	28					<i>PULL #4</i>	
	29					<i>START 9:25</i>	
	30					<i>END 10:06</i>	
	31					<i>TIME 41min</i>	
	32					<i>DRL 41min</i>	
	33					<i>RAN -</i>	
	34					<i>REL 9.3</i>	
	35					<i>LOSS 0</i>	
	36					<i>UNAC 3'</i>	
	37						
	38						
	39						
	40						

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PROJECT *GALLIPOLIS LOCK DAM* HOLE NO. *R-47/1*

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. <u>2-47/1</u>		
PROJECT		INSTALLATION		SHEET 2		
<u>GALLIPOLIS Lock &amp; Dam</u>		<u>GRH-CD</u>		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		Box 6	PULL #4
	21					
475.2	22					
	23		CLS SH, M.H, GR, SOLID		23.3	DEP 17 DEP 23.6
	24		0.4 CLEAR UCRT FRAC		Box 7	PULL #5
	25		473.6			START 10:18
471.5						END 10:40
	26		ICL			TIME 22min
	27		S. M.H, R. GR OCC. SLK		27.0	DRL 22min
	28		0.2 LC 23.6-29.9,		Box 8	REC 6.0
	29		0.6 LC 29.8-37.2			LOSS 0.2
	30		0.2 UCRT SOFT 29.6-29.8			UNREC 0.2
	31				30.7	TIME 29.8
	32					DEP 30.4
	33				Box 9	PULL #6
	34					START 10:55
	35					END 11:30
	36					TIME 35min
	37					DRL 35min
460.0					39.3	REC 6.8
	38				Box 10	LOSS 0.6
	39					UNREC 0.6
	40					
	41					
	42					
	43					
	44					
			CONTAIN HOLE		37.2	TIME 37.2
						DEP 37.7

ENG FORM 1036-A

(BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS Lock & Dam

HOLE NO.

2-47/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-9712	
1. PROJECT GALLIPOLIS LOCK & DAM		ORH-CD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) MONO R-97 STA 5+16.3				10. SIZE AND TYPE OF BIT 4 1/2"		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.	
3. DRILLING AGENCY W.G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B. 57 MOBILE			
4. HOLE NO. (As shown on drawing title and life number) R-9712				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DOWELL NORRIS				14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 497.2				16. DATE HOLE 1/20/89		STARTED 1/23/89	
8. DEPTH DRILLED INTO ROCK 38.4				17. ELEVATION TOP OF HOLE 497.2			
9. TOTAL DEPTH OF HOLE 458.8				18. TOTAL CORE RECOVERY FOR BORING 38.4		19. SIGNATURE OF INSPECTOR J.M.D.	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.2	1		SANDSTONE M.H. gr. m. g. bkn in sect		Box 1	PULL #1 START 6:50 END 7:15 TIME 25min DRL 25min RAN 4.9 REC 4.2 LOSS 0 UNAC 0	
494.5	2		0.1-0.5				
	3		ICL VS -S-V-S. 1 SLK bkn		3.7	LOSS 0 UNAC 0 TIDEP 3.5	
	4		CRUMBLY 2.7-4.2 0.4 SEC				
	5		bkn @ 5.5 gradual cont.		Box 2	PULL #2 START 7:15 END 7:40 TIME 15min DRL 15min RAN 4.0 REC 5.0 LOSS 0 UNAC 0 TIDEP 4.9	
	6						
	7						
	8						
492.3	9		CLS		Box 3	PULL #3 START 8:40 END 8:20 TIME 20min DRL 20min RAN 4.0 REC 0.9 LOSS 0.6 UNAC 0.6 TIDEP 4.9	
	10		SL, m. h. gr. 9 rad to				
	11		CL, s.s below 11.0		11.0		
	12		UCRT CLEAN FRAC 10.1 -		Box 4	PULL #4 START 9:45 END 9:50 TIME 5min DRL 5min RAN 2.9 REC 5.2 LOSS 0.6 UNAC 0.6 TIDEP 5.9	
	13		11.0				
	14				14.8		
	15						
	16				Box 5	PULL #5 START 10:30 (CONT) TIDEP 19.9	
479.6	17		SANDSTONE m. h. gr. MASS		18.8		
	18				Box 6		
	19						
	20		(CONT)		CONT		

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-9712

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			497.2	R-47/2		
GALLIPOLIS LOCK & DAM			INSTALLATION	SHEET		
			ORH-CD	OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.3	20		SANDSTONE		Box 6	PULL #5 END 10:45 TIME 15min
	21		CLS		21.4	DEL 15min
	22		Sh, M.H, GR. MAS		Box 7	RAN - REC 4.0 LOSS 0 UNACC 0
	23					
	24					
	25				24.9	DEP 24.9
	26				Box 8	PULL #6 START 7:15 END 7:30 TIME 15min DEL 15min RAN 5.0 REC 5.0 LOSS 0 UNACC 0
468.2	29		ICL		28.5	LOSS 0 UNACC 0
	30		Motted, R.Br., S.-MA		Box 9	TIDE P + DEP 29.0
	31		0.8 LC @ 29.0-29.08			PULL #7 START 8:20 END 8:45 TIME 25min DEL 25min RAN - REC 4.0 LOSS 0 UNACC 0
	32				32.7	TIDE P + DEP 32.0
	33				Box 10	PULL #8 START 8:59 END 9:15 TIME 16min DEL 16min
	34				36.1	
	35				Box 11	RAN - UNACC 0 REC 4.6 LOSS 0
458.8	38		Bottom HOLE		38.4	DEP + TIDE P 38.4
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1960 OF-622-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

R-47/2



DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>R-48/1</u>	
PROJECT		<u>ORD</u>		<u>ORH-CD</u>		SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK/DAM</u>				10. SIZE AND TYPE OF BIT <u>4 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MONO R-48 STA 5+06.3 B</u>				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. G. JACOBS</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B.-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-48/1</u>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>DAVE HARPER / STEVE FRY</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		UNDISTURBED <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>		16. DATE HOLE STARTED <u>1/20/89</u> COMPLETED <u>1/20/89</u>	
7. THICKNESS OF OVERBURDEN <u>0</u> <u>497.3</u>				17. ELEVATION TOP OF HOLE <u>497.3</u>			
8. DEPTH DRILLED INTO ROCK <u>37.9</u>				18. TOTAL CORE RECOVERY FOR BORING <u>37.9</u> %			
9. TOTAL DEPTH OF HOLE <u>458.4</u>				19. SIGNATURE OF INSPECTOR <u>JMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.3	1		SANDSTONE M.H., GR, M.G. BEN IN SECTION 0.1-0.6		1	PULL #1 START 12:25 END 12:43 TIME 18 min DRL 18 min RAN - REL 4.3 LOSS 0 UNMCL 0 T.DEP 4.3	
494.5	2						
	3		ICL		3.7	DEP 5.0	
	4		S, M.H., R.-GR, OCC SLK			PULL #2	
	5		SOLID TO 9.0 W/O.2		2	START 12:50 END 1:03 TIME 13 min DRL 13 min RAN - REL 4.5 LOSS 0.2 UNMCL 0.2 T.DEP 9.0 DEP 9.3	
	6		L.C. 4.3-9.0, SEUBEN 9.0-		7.0		
	7		11.6 + U.S. TO 13.1		3	PULL #3	
	8				10.6	START 1:15 END 1:45 TIME 30 min DRL 30 min RAN - REL 7.4 LOSS 0.9 UNMCL 0.9	
	9				4		
489.2	13		CL / SLK				
	14		M.H. GR, SOLID GRADING		14.4		
	15		SA 0.9 LOSS IN ICL 9.0				
	16		- 17.5		5	T.DEP 17.5	
480.3	17		SANDSTONE				
	18		M.H., GR, MASS, M.G.		18.9	DEP 18.9	
	19				6	PULL #4	
	20		(CONT)		(CONT)	START 2:25 END 3:03 (CONT)	

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PROJECT GALLIPOLIS LOCK/DAM HOLE NO. R-48/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. L-48/1	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS LOCK DAM			ORH-CD		2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			
476.1	21				6	TIME 38 min DEL 38 min RAN — REC 5.8 LOSS 0.2 UNAC 0.2 DEP 23.6 TIDEP 23.5
	22		CLS SH, M.H. GL, SLK @			
	23		23.6 AND 26.0, 0.2		22.7	
	24		LOSS 17.5-23.5		7	PULL #5 TIDEP 24.2
	25					START 3:43 END 4:00
470.8	26				24.3	TIME 17 min DPL 17 min RAN — REC 5.9 LOSS 0.6 UNAC 0.6
	27		ICL			
	28		M.H. R. SLK W/SCU		8	
	29		BLN 20S W/1.8 S. 20			
	30		W/1.8 S. 20 @ 27.7; 0.2		25.9	
	31		LC 470.2-464.2, DEOB			DEP 33.1
	32		IN SEV BLN 20 @ END		9	PULL #6 START 4:37 END 4:55 TIME 18 min DEL 18 min RAN 4.7 REC 0.8 LOSS 0.3 UNAC 0.2
	33		OF RUN 0.2 LOSS 464.2		33.9	
	34		- 459.4			
	35				10	
	36					
	37					
459.4	38		BOTTOM HOLE		37.9	TIDEP 37.9
	39					DEP 38.9
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 47

(NR 1110-1-1801)

GPO 1980 OF - 628-503

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO.  
L-48/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 1/2" "			
3. DRILLING AGENCY		MONO R-48 STA 4+74.8		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		R-48/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		A. TICE		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		497.1		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.8		16. DATE HOLE		STARTED 1/23/89 COMPLETED 1/23/89	
9. TOTAL DEPTH OF HOLE		459.3		17. ELEVATION TOP OF HOLE		497.1	
				18. TOTAL CORE RECOVERY FOR BORING		37.9	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
495.7	1		SANDSTONE m.c.s., m.h., m.g.r., bkn s. pieces			PULL #1 START 9:42 END 9:57 TIME 15 min DRL 15 min RAN - REC 2.8 T/DEP 3.3 LOSS 0.5 UNACC 0.5 DEP 9.7	
	2		ICL		Box 1		
	3		R.br., s.-mh., SLK, VE.S				
	4		g.r. cl. @ 1.4 bkn. 1.4-		4.1		
	5		3.3 w/o.5 L.C. bkn				
	6		5.7-8.2 w/o.8 L.C.		Box 2	PULL #2 START 10:00 END 10:24 TIME 24 min DRL 24 min UNACC 0.8 RAN - REC 4.1 LOSS 0.8 DEP + T/DEP 8.2	
	7		bkn. 8.2-9.2 w/o.8 L.C.				
	8				8.2		
	9						
	10						
	11						
	12				11.9		
483.7	13						
	14		CLS		Box 4	PULL #3 START 10:55 END 11:11 TIME 16 min DRL 16 min RAN - REC 4.4 LOSS 0.8 UNACC 0.8 DEP + T/DEP 13.4	
	15		SLY., s.-mh., m.-dk.g.r. 0.1 s.g.r. cl 15.1-15.2 15.4-15.5				
481.6	16				16.2	PULL #4 START 11:20 END 11:32 TIME 12 min DRL 12 min RAN - REC 5.1 LOSS 0 UNACC 0 DEP + T/DEP 18.5	
	17		SANDSTONE SLY., f.g., mh., m.g.r. bkn. 16.0-16.2 s.g.r. cl. 16.3-16.4: CLS 16.6 -16.7: bkn SS w/frag 17.8- 17.9: s. CLS 17.9-18.1		Box 6		
478.4	18						
	19		SLS		19.8	PULL #5 START 12:25 (CONT)	
	20		CLY., s.-mh., m.g.r. (CONT)				

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
E-48/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. <i>R-48/1</i>	
PROJECT <i>GALLIPOLIS LOCK DAM</i>				INSTALLATION <i>OPH-CD</i>		SHEET <i>2</i> OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
<i>476.4</i>	<i>20</i>		<i>SLs (cont) CLS. 18.7-19.2</i> <i>GRADING INTO</i>			<i>PULL #5</i>	
	<i>21</i>		<i>CLS</i>		<i>7</i>	<i>END 12:35</i>	
	<i>22</i>		<i>S.-M.H. - M.-DK.G.R., SKY</i>			<i>TIME 10min LOSS 0</i>	
	<i>23</i>		<i>OKN. 22.1-22.4</i>			<i>DEL 10min UNAC 0</i>	
	<i>24</i>		<i>GRADING</i>			<i>RAN -</i>	
						<i>REC 5.0</i>	
						<i>23.5 DEPT/DEP 23.5</i>	
<i>472.1</i>	<i>25</i>		<i>ICL</i>		<i>8</i>	<i>PULL #6</i>	
	<i>26</i>		<i>MOTTED R. BR.</i>			<i>START 12:42</i>	
	<i>27</i>		<i>S.-M.H., SLKs</i>			<i>END 12:55</i>	
	<i>28</i>					<i>TIME 13min</i>	
	<i>29</i>					<i>DEL 13min</i>	
	<i>30</i>					<i>RAN -</i>	
	<i>31</i>					<i>REC 5.0</i>	
	<i>32</i>					<i>27.3 LOSS 0</i>	
	<i>33</i>					<i>UNAC 0</i>	
	<i>34</i>					<i>DEPT/DEP 28.5</i>	
	<i>35</i>				<i>9</i>	<i>PULL #7</i>	
	<i>36</i>					<i>START 13:10</i>	
	<i>37</i>					<i>END 13:13</i>	
	<i>38</i>					<i>TIME 13min</i>	
	<i>39</i>					<i>DEL 13min</i>	
	<i>40</i>					<i>RAN -</i>	
	<i>41</i>					<i>REC 5.0</i>	
	<i>42</i>				<i>10</i>	<i>LOSS 0</i>	
	<i>43</i>					<i>UNAC 0</i>	
	<i>44</i>					<i>DEPT/DEP 33.5</i>	
<i>452.9</i>	<i>38</i>		<i>Bottom HOLE</i>		<i>11</i>	<i>PULL #8</i>	
	<i>39</i>					<i>START 13:49</i>	
	<i>40</i>					<i>END 14:04 LOSS 0</i>	
	<i>41</i>					<i>TIME 20min UNAC 0</i>	
	<i>42</i>					<i>DEL 20min</i>	
	<i>43</i>					<i>RAN -</i>	
	<i>44</i>					<i>REC 4.3</i>	
						<i>37.8 DEPT/DEP 37.8</i>	

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-325-243

PROJECT  
*GALLIPOLIS LOCK DAM*

HOLE NO.  
*R-48/2*

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>R-99/1</u>	
		<u>ORD</u>		<u>ORH-CD</u>		SHEET <u>OF 2 SHEETS</u>	
1. PROJECT <u>GALLIPOLIS LOCK DAM</u>				10. SIZE AND TYPE OF BIT <u>4 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MPNO R-49 STA 4+64.8</u>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <u>M. S. L.</u>			
3. DRILLING AGENCY <u>W. G. JACOBS</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MAG. LE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-99/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>STEVE FRY</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		UNDISTURBED <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. DATE HOLE <u>1/20/89</u>		COMPLETED	
7. THICKNESS OF OVERBURDEN <u>0</u> <u>497.3</u>				17. ELEVATION TOP OF HOLE <u>497.3</u>			
8. DEPTH DRILLED INTO ROCK <u>39.3</u>				18. TOTAL CORE RECOVERY FOR BORING <u>39.3</u>			
9. TOTAL DEPTH OF HOLE <u>458.0</u>				19. SIGNATURE OF INSPECTOR <u>JMD</u>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	1		SANDSTONE m.h. gr. m.g. BKN IN SECT		Box 1	PULL#1 START 5:30 END 5:34 TIME 4min DRL 4min RAN 4.9 REC 4.5 LOSS .4 UNAC .4
494.6	2		0.1-0.9			
	3		ICK S. - m.h. BKN w/ 0.8 LOSS		3.9	DEP/TIDEP 4.9
	4		2.7-4.9 OCC. m.h. + SOLID		Box 2	PULL#2
	5		4.9-6.2			
491.1	6					START 5:50
	7		CLS m.h. gr. SLT 10 LC 9.0		7.8	END 6:03 TIME 13min DRL 13min RAN 5.3 REC 4.1 LOSS .4 UNAC .4
	8		11.7 DB LC. 9 RT 4.9		Box 3	TIDEP 9.8 DEP 10.2
	9		9.0, 10 LC 9.0-11.7			
	10					PULL#3
	11					START 6:16
	12				12.5	END 6:25 TIDEP 11.7
	13					TIME 9min DRL 9min
	14				Box 4	RAN 4.4 REC 1.7 LOSS 1.0 UNAC 1.0 DEP 14.6
485.6	15		CL/CLS m.h. gr. m.h. w/ 1.5		16.3	PULL#4 START 6:40 END 6:51 TIME 11min UNAC 0.9
	16		20, BKN 15.4-17.3 w/ 0.7			REC 4.9 LOSS 0.9
	17		LOSS, LOSS, CL 20, UCRT FRAC. 4 m.h. LC.		Box 5	DRL 11min RAN 2.1 TIDEP 17.3 DEP 17.5
479.7	18		SANDSTONE m.h. gr. m.g. w/ 0.6			PULL#5
	19		SH 1.6 18.2			START 7:07
477.7	20		CLS (CONT)		CONT	END 7:30 TIME 23min DRL 23min RAN 5.1

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-99/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No. R-49/1	
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
6 ALLIPOLIS LOCK DAM		ORH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 5	PULL #5
	21					REL 5.3
	22		Sh, m. h - sec & kn. 19.6		Box 6	LOSS 0.0
	23		20.5, w/10.7 ICL 23.1			UNACC 0.0
	24		0.7 LOSS 22.6 - 26.2			TIDEPT DEP 22.6
	25					PULL #6
	26					START 7:45
	27					END 8:10 LOSS 0.7
	28				28.3	TIME 25min UNACC 0.7
	29					DRL 25min
	30				Box 7	RAN 3.5
	31					REL 2.9
	32					DEP 26.1
	33					TIDEPT 26.2
	34					PULL #7
	35					START 9:00
	36					END 9:10
	37					TIME 10min
	38					DRL 10min UNACC
	39				28.5	RAN 3.9
468.3	40		ICL			REL 3.1
	41		m. h. R - 7R SOLID		Box 8	LOSS
	42		0.3 LOSS 39.3 - 39.6			TIDEPT 39.3
	43					DEP 39.3
	44				Box 9	PULL #8
	45					START 9:24
	46					END 9:35
	47					TIME 14min
	48				32.0	DRL 14min
	49					RAN 5.1
	50				Box 10	REL 5.0
	51					LOSS 0.3
	52					UNACC 0.3
	53					DEPT/TIDEPT 34.6
	54					PULL #9
	55					START 7:55
	56				35.9	END 10:05
	57					TIME 10min
	58				Box 11	DRL 10min TIDEPT 36.7
	59					RAN 4.2
	60					REL 5.0
	61					LOSS 0.3
458.0	62					UNACC 0.3
	63		BOTTOM HOLE		39.3	DEP 39.3
	64					PULL #10
	65					START 9:35
	66					END 10:05
	67					TIME 10min
	68					DRL 10min
	69					RAN 4.7
	70					REL 4.7
	71					LOSS 0 UNACC
	72					TIDEPT DEP 39.3
	73					
	74					

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
ORD		ORD		ORD-CD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK DAM				10. SIZE AND TYPE OF BIT 4X5.5"			
2. LOCATION (Coordinates or Station) M-49 STA 41328				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.			
3. DRILLING AGENCY W. G. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-49/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DOWELL MORRIS				14. TOTAL NUMBER CORE BOXES 10			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DES. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.7				16. DATE HOLE STARTED 1/23/89 COMPLETED 1/23/89			
8. DEPTH DRILLED INTO ROCK 36.7				17. ELEVATION TOP OF HOLE 496.7			
9. TOTAL DEPTH OF HOLE 460.0				18. TOTAL CORE RECOVERY FOR BORING 36.7			
				19. SIGNATURE OF INSPECTOR LMO			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.7	1		SANDSTONE M-C.G., M.H., M.G., M.G.R.		Box 1	PULL #1 START 4:05 END 4:20 TIME 15min LOSS 0 DRL 15min UNACC 0 RAN - REC 4.9 DEP + T/DEP 2.0	
495.1	2		ICL			PULL #2	
	3		R.6R, S, SLK VE. S. GU.		3.5	START 4:25 END 4:40 TIME 15min DRL 15min RAN - REC 1.9 LOSS 0 T/DEP 4.8 UNACC 0	
	4		CL. 1.3-1.6 GR, SKY		Box 2		
	5		4.8-7.3:1"3, GRCL @ 7.3				
	6						
489.4	7						
	8		SANDSTONE		2.8	DEP 8.2	
	9		SKY, F.G., M.H., M.G.R.		Box 3	PULL #3 START 4:45 END 4:50 TIME 5min DRL 5min RAN 4.9 REC 5.1 T/DEP 11.9 LOSS 0 UNACC 0	
	10		MASS, GR. CL. COA		11.5	DEP 13.1	
	11		CONTACT		Box 4	PULL #4 START 5:10 END 5:20 TIME 10min DRL 10min T/DEP 16.4 RAN 5.6 REC 5.1 LOSS 0 UNACC 0	
	12						
	13						
	14						
	15				15.1		
	16				Box 5		
479.4	17						
	18		SLK		18.9	DEP 18.7	
	19		S.-M.H., M.-dk.gr.		Box 6	PULL #5 START 5:30 END 6:05 (CONT)	
	20		GRADING (CONT)		(CONT)		

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(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-49/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				496.7		R-49/2	
GALLIPOLIS LOCK DAM				INSTALLATION		SHEET	
				ORH-CD		2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
475.7	21		SLK (CONT)		Box 6	PULL #5 TIME 35 min DRL 35 min RAN 4.8 REC 6.2 LOSS 0 UNACC 0 T/DEP 23.2 DEP 23.5	
	22		CLS S-M.H. M.-DK.G.R., SKY				
	23		SLK ANG. PTG @ 22.0		22.0		
	24		HA, SLK, JT @ 23.7-24.2				
	25		SKY 23.3-24.5		Box 7	PULL #6 START 6:35 END 7:00 TIME 25 min DRL 25 min RAN 5.2 REC 5.4 LOSS 0 UNACC 0 DEP 28.7 T/DEP 28.6	
469.7	26		GRADING		26.5		
	27						
	28		ICL		Box 8	PULL #7 START 7:29 END 8:00 TIME 31 min DRL 31 min RAN 5.2 RUN 5.2 LOSS 0 UNACC 0 DEP 33.8 T/DEP 33.8	
	29		R.6R, S.-M.H. SLK				
	30		0.5 CORE LEFT IN		30.2		
	31		HOLE 36.7-39.7				
	32				Box 9	PULL #8 START 8:20 END 8:40 TIME 20 min DRL 20 min T/DEP 36.9 RAN 5.8 REC 2.6 LOSS 0.5 UNACC 0.5 DEP 39.7	
	33						
	34				33.8		
	35						
460.0	36		BOTTOM HOLE		Box 10		
	37				36.7		
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT  
GALLIPOLIS LOCK DAM  
HOLE NO.  
R-49/2



DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-50/1	
1. PROJECT		ORD		ORN-LD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS Lock + Dam		10. SIZE AND TYPE OF BIT 4 1/2" S"		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)	
3. DRILLING AGENCY		W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		M. S. L.	
4. HOLE NO. (As shown on drawing title and file number)		R-50/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER		DAVID HARPER		14. TOTAL NUMBER CORE BOXES		10	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		0 497.3		16. DATE HOLE		STARTED 1/20/87 COMPLETED 1/23/87	
8. DEPTH DRILLED INTO ROCK		37.6		17. ELEVATION TOP OF HOLE		497.3	
9. TOTAL DEPTH OF HOLE		459.7		18. TOTAL CORE RECOVERY FOR BORING		37.6 %	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.3	1		SANDSTONE			PULL #1	
	2		M.G. , M.H. , M.GR DEN INTO SMALL PIECES W/ OCC. GR CL FLT.		1	START 22:55 END 23:10 TIME 15 min DRL 15 min RAN 4.7 REC 3.3 LOSS 1.4 UNAC 1.4 DEP 4.7	
494.2	3		CLS				
	4		Sly, S.-m.h., m.-dk.gr		4.7		
491.6	5		CLS				
	6		SLS		2	PULL #2	
	7		S.-m.h., m.-dk.gr. PT			START 8:00 END 8:15 TIME 15 min LOSS @ DRL 15 min UNAC @ RAN 2.8 REC 2.8 DEP 7.5	
	8		Sly m. SPACED hor		8.0		
	9		PTGS 5.20 W/ 0.1 L.C @ 10.0-10.1				
487.2	10		SANDSTONE		3	PULL #3	
	11		Sly. fig, m.h., m.gr			START 8:27 END 8:38 TIME 11 min DRL 11 min RAN 5.0 REC 4.9 LOSS 0.1 UNAC 0.1 DEP 12.5	
	12		m-spaced PTGS to 15.0 (MECH) BKN (MECH) 15.0-19.0		11.6		
	13				4	PULL #4	
	14					START 8:48 END 9:10 TIME 22 min DRL 22 min RAN 8.0 REC 8.0 LOSS @ UNAC @	
	15				15.0		
	16				5		
	17						
	18				18.7		
478.3	19		CLS		6		
	20		(CONT)		(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS Lock + Dam

HOLE NO. R-50/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 497.3		Hole No. R-50/1	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD			SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant). g	
	20		CLS			PULL #4 DEP 20.5	
	21		S: m.h., midk. gr. sh		6	PULL #5	
	22		1/2 S. S.C. @ 17.6: clay sh		22.3	START 9:20	
	23		SPACED shy DTGS w/			END 9:57	
	24		OCC TR. GR. CL. COA & SE		7	TIME 37 min	
	25		17.6-25.0 shy 25.0-26.0			DRL 37 min	
	26		GRADING		26.0	RAN 9.8	
470.3	27					REC 9.8	
	28		ICL			LOSS 0	
	29		MOTTED - v. br. bkn		8	UNAC 0	
	30		SLK S-M.H.		29.8	PULL #6	
	31					START 10:15	
	32					END 10:30	
	33				33.2	TIME 15 min	
	34					DRL 15 min	
	35					RAN 1.7	
	36				9	REC 1.7	
	37					LOSS 0	
459.7	38		BOTTOM HOLE			UNAC 0	
	39					PULL #7	
	40					START 10:43	
	41					END 11:11	
	42					TIME 28 min	
	43				10	DRL 28 min	
	44					RAN 28 min	
						REC 50	
						LOSS .6	
						UNAC .6	
						DEP 37.6	

BNG FORM 1836-A

(BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. R-50/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-50/2	
1. PROJECT		ORP		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS Lock + DAM		10. SIZE AND TYPE OF BIT		4 YS.5"	
3. DRILLING AGENCY		MONO R-50 STA 3190B		11. DAY OF ELEVATION KNOWN (Y or M)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-50/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		DOWELL NORRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		Ø 496.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.4		16. DATE HOLE		STARTED 1/23/89 COMPLETED 1/29/89	
9. TOTAL DEPTH OF HOLE		458.5		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		38.4	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SANDSTONE		Box 1	PULL #1	
	2		M.-Cg., m.h., m.gr			START 9:45	
	3					END 10:00	
493.7	4		ICL			TIME 15min	
	5		MOTTLED R.BR, S.-m.h. O.Z			DRL 15min	
	6		GRCL. 3.2-3.4 BKN (mech)			RAN 4.7	
491.8	7		CLS			REC 4.7	
	8		S.-m.h., m.-dk.gr			LOSS Ø	
	9		GRADING SLY @ 6.0			UNACL Ø T/DEP 9.9	
487.6	10		SANDSTONE			DEP 9.9	
	11		SLY F.g., m.h., m			PULL #2	
	12		SR			START 10:20	
	13					END 10:35	
	14					TIME 15min	
	15					DRL 15min	
481.8	16		CLS			RAN 4.9	
	17		S.-m.-dk.gr			REC 4.6	
479.8	18		SLY			LOSS Ø	
	19		Sa, S.-m.h., m.-dk.gr			UNACL Ø T/DEP 9.0	
	20		ANG. CL COA RL9 171-17.3			DEP 9.0	
478.7	21		CLS			PULL #3	
	22		S.-m.h., m.-dk.gr bkn			START 10:45	
477.0	23		SLY 18.6-19.2 W/O.3LC			END 11:00	
	24		mech GRADING			TIME 15min	
	25					DRL 15min UNACL Ø	
	26					RAN 5.1	
	27					REC 4.9	
	28					LOSS Ø	
	29					DEP 14.0	
	30					PULL #4	
	31					START 23:10	
	32					END 23:30	
	33					TIME 20min	
	34					DRL 20min	
	35					RAN 5.4	
	36					REC 5.4	
	37					LOSS Ø	
	38					UNACL Ø	
	39					DEP 14.2	
	40					PULL #5	
	41					START 23:10	
	42					END 23:30	
	43					TIME 20min	
	44					DRL 20min	
	45					RAN 5.4	
	46					REC 5.4	
	47					LOSS Ø	
	48					UNACL Ø	
	49					DEP 14.2	
	50					PULL #6	
	51					START 23:10	
	52					END 23:30	
	53					TIME 20min	
	54					DRL 20min	
	55					RAN 5.4	
	56					REC 5.4	
	57					LOSS Ø	
	58					UNACL Ø	
	59					DEP 14.2	
	60					PULL #7	
	61					START 23:10	
	62					END 23:30	
	63					TIME 20min	
	64					DRL 20min	
	65					RAN 5.4	
	66					REC 5.4	
	67					LOSS Ø	
	68					UNACL Ø	
	69					DEP 14.2	
	70					PULL #8	
	71					START 23:10	
	72					END 23:30	
	73					TIME 20min	
	74					DRL 20min	
	75					RAN 5.4	
	76					REC 5.4	
	77					LOSS Ø	
	78					UNACL Ø	
	79					DEP 14.2	
	80					PULL #9	
	81					START 23:10	
	82					END 23:30	
	83					TIME 20min	
	84					DRL 20min	
	85					RAN 5.4	
	86					REC 5.4	
	87					LOSS Ø	
	88					UNACL Ø	
	89					DEP 14.2	
	90					PULL #10	
	91					START 23:10	
	92					END 23:30	
	93					TIME 20min	
	94					DRL 20min	
	95					RAN 5.4	
	96					REC 5.4	
	97					LOSS Ø	
	98					UNACL Ø	
	99					DEP 14.2	
	100					PULL #11	
	101					START 23:10	
	102					END 23:30	
	103					TIME 20min	
	104					DRL 20min	
	105					RAN 5.4	
	106					REC 5.4	
	107					LOSS Ø	
	108					UNACL Ø	
	109					DEP 14.2	
	110					PULL #12	
	111					START 23:10	
	112					END 23:30	
	113					TIME 20min	
	114					DRL 20min	
	115					RAN 5.4	
	116					REC 5.4	
	117					LOSS Ø	
	118					UNACL Ø	
	119					DEP 14.2	
	120					PULL #13	
	121					START 23:10	
	122					END 23:30	
	123					TIME 20min	
	124					DRL 20min	
	125					RAN 5.4	
	126					REC 5.4	
	127					LOSS Ø	
	128					UNACL Ø	
	129					DEP 14.2	
	130					PULL #14	
	131					START 23:10	
	132					END 23:30	
	133					TIME 20min	
	134					DRL 20min	
	135					RAN 5.4	
	136					REC 5.4	
	137					LOSS Ø	
	138					UNACL Ø	
	139					DEP 14.2	
	140					PULL #15	
	141					START 23:10	
	142					END 23:30	
	143					TIME 20min	
	144					DRL 20min	
	145					RAN 5.4	
	146					REC 5.4	
	147					LOSS Ø	
	148					UNACL Ø	
	149					DEP 14.2	
	150					PULL #16	
	151					START 23:10	
	152					END 23:30	
	153					TIME 20min	
	154					DRL 20min	
	155					RAN 5.4	
	156					REC 5.4	
	157					LOSS Ø	
	158					UNACL Ø	
	159					DEP 14.2	
	160					PULL #17	
	161					START 23:10	
	162					END 23:30	
	163					TIME 20min	
	164					DRL 20min	
	165					RAN 5.4	
	166					REC 5.4	
	167					LOSS Ø	
	168					UNACL Ø	
	169					DEP 14.2	
	170					PULL #18	
	171					START 23:10	
	172					END 23:30	
	173					TIME 20min	
	174					DRL 20min	
	175					RAN 5.4	
	176					REC 5.4	
	177					LOSS Ø	
	178					UNACL Ø	
	179					DEP 14.2	
	180					PULL #19	
	181					START 23:10	
	182					END 23:30	
	183					TIME 20min	
	184					DRL 20min	
	185					RAN 5.4	
	186					REC 5.4	
	187					LOSS Ø	
	188					UNACL Ø	
	189					DEP 14.2	
	190					PULL #20	
	191					START 23:10	
	192					END 23:30	
	193					TIME 20min	
	194					DRL 20min	
	195					RAN 5.4	
	196					REC 5.4	
	197					LOSS Ø	
	198					UNACL Ø	
	199					DEP 14.2	
	200					PULL #21	
	201					START 23:10	
	202					END 23:30	
	203					TIME 20min	
	204					DRL 20min	

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.7		Hole No. R-50/L	
PROJECT GALLIPOLIS Lock & Dam			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	20		SL5 S.M.H., M.-DK.G.R. grading		Box 6	PULL #5 START 7:26 END 7:52 TIME 26 min DRL 26 min RAN — REC 5.0 LOSS 0 UNACC 0 TIDEP 28.1 DED 28.9
492.0	21		CLS S.M.H., M.-DK.G.R. occ sky, shy bkn 21.3-21.1 W/TKL COA @ 21.3:53 LEN 28.3-28.8 w/gr CL. COA CONTACT @ 28.3		Box 7	
	22					
	23					
	24					
	25		ICL		Box 8	PULL #6 START 8:00 END 8:40 TIME 40 min DRL 40 min RAN — REC 5.0 LOSS 0 UNACC 0 TIDEP 29.1 DED 29.9
	26		MOTTED - R.B.R. S.-M.H.			
	27		UE. 6 kn. 28.9-28.2			
	28		1" U.E. S. CL. SE. @ 27.5			
	29		Becoming R.B.R. @ 29.4		Box 9	PULL #7 START 8:49 END 9:30 TIME 41 min DRL 41 min RAN — REC 5.0 LOSS 0 UNACC 0 DEPT/TIDEP 34.9 DED 34.9
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
458.5	38		Bottom Hole		Box 10	PULL #8 START 9:40 END 10:00 TIME 20 min DRL 20 min RAN — REC 3.5 LOSS 0 UNACC 0 DED+TIDEP 38.4
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS Lock & Dam HOLE NO. R-50/L

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-511	
PROJECT		ORD		OEH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4.5" H"			
2. LOCATION (Coordinates or Station)		MANO RSL STA		11. DAYTIME FOR ELEVATION SHOWN (TIME = REL)			
3. DRILLING AGENCY		W.G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-511		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER		DAVID HARPER		14. TOTAL NUMBER CORE BOXES		10	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		497.4		16. DATE HOLE		STARTED 1/23/69 COMPLETED 1/23/69	
8. DEPTH DRILLED INTO ROCK		38.8		17. ELEVATION TOP OF HOLE		497.4	
9. TOTAL DEPTH OF HOLE		458.6		18. TOTAL CORE RECOVERY FOR SCORING		38.8	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.4	1		SANDSTONE			PULL #1	
	2		M.C.G, M.H, M.G.R			START 12:00 REC 1.4	
	3		UE. bkn 0.0-1.4 (mech)			END 12:20 LOSS 0	
	4		GR CL COA, pgs @ 2.4,		Box 1	DEP 1.4 TIME 20 UNACB	
	5		2.7, 3.1 & 3.4			DEL 20	
493.9	6					RAN 14	
	7		CLS		3.5	PULL #2	
	8		S. M. DK. GR 0.7 L.C.			START 12:25 REC 4.5	
	9		3.5-4.2 (S. -MECH)		Box 2	END 12:33 LOSS 0.7	
492.8	10					TIME 8 min UNACB 0.7	
	11		CLS			DEL 8 min	
	12		INTERBEDD W/ M-DK GR			RAN 6.2	
	13		SKY CLS. W/ OCC GR. CL		7.6	DEP 6.6	
	14		COA SKY PGS CLS 9.3-10.3			PULL #3	
487.1	15				Box 3	START 12:45 UNACB 0	
	16		SANDSTONE			END 12:57	
	17		F.G., M.H., M.G.R, CLY			TIME 12 min	
	18		SKY bkn 11.2-12.0 C		Box 4	DEL 12 min	
	19		Loss mech)			RAN 50	
481.2	20				11.2	REC 50	
	21		CLS			LOSS 0	
	22		S. M.H., M. DK. GR, SKY		Box 5	DEP 11.6	
	23		0.2 S. bkn 20 W/ GR. CL			PULL #4	
	24		16.2 - thin F.G. SS LAM			START 1:05	
	25		20 STARTING AT 17.0		14.7	END 1:34	
	26		S. DK GR CRUSHED 20 W/ C-			TIME 25 min	
	27				Box 6	DEL 25 min	
	28					RAN 8.9	
	29					REC 8.9	
	30					LOSS 0	
	31					UNACB 0	
	32						
	33						
	34						
	35						
	36						
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ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-511

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		497.4		P-5111		
		ORH-CD		SHEET 2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.3	20		CLS		Box 6	PULL #4
	21		SLY FRAG & GR CL. 19.9-20.5			DEP 20.6
	22		CLS		Box 7	PULL #5
	23		SLY - dk. gr. S - m. h.			START 1:45
	24		W 10 closely spaced, hor			END 2:09
	25		CL. COA. PTGS. (mostly			TIME 24 min
			0.1 pieces UG BKN			DRL 24 min
			24.3-25.1 (MCL)			RAN 4.9
						REC 4.9
						LOSS 0
						UNAC 0
472.0	25				25.4	DEP 25.9
	26		ICL			PULL #6
	27		Mottled - R. br. S - m. h.		Box 8	START 2:20
	28		SLK S. 25.4-28.0			END 2:38
	29		0.3 LG. b/w 30.1 & 34.5			TIME 18 min
	30		1.5 LG. b/w 34.5 & 38.8			DRL 18 min
	31					RAN 4.7
	32					REC 4.7
	33					LOSS 0
	34					UNAC 0
	35				30.1	DEP 30.1
	36					PULL #7
	37				Box 9	START 2:50
	38					END 3:10
	39					TIME 20 min
	40					DRL 20 min UNAC 0.4
	41					RAN 4.4
	42					REC 4
	43				34.0	LOSS 0.4
	44					DEP 34.5
	45					PULL #8
	46				Box 10	START 15:45
	47					END 16:02
	48					TIME 17 min
	49					DRL 17 min
	50					RAN 4.3
	51					REC 4.3
458.6	51		BOTTOM HOLE		38.8	DEP 38.8
	52					
	53					
	54					
	55					
	56					
	57					
	58					
	59					
	60					
	61					
	62					
	63					
	64					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-328-248

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
P-5111

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-51/2	
1. PROJECT <b>GALLIPOLIS LOCK 1 DAM</b>		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) <b>MONO P-51 STA 3+80.8</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>		11. DATUM FOR ELEVATION SHOWN (Type or Name) <b>M.S.L.</b>	
3. DRILLING AGENCY <b>W. &amp; J. JACQUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>R-51/2</b>				14. TOTAL NUMBER CORE BOXES <b>11</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
5. NAME OF DRILLER <b>WAYNE TICE</b>				16. DATE HOLE <b>1/24/87</b>		17. ELEVATION TOP OF HOLE <b>497.4</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				18. TOTAL CORE RECOVERY FOR BORING <b>37.9</b>		19. SIGNATURE OF INSPECTOR <b>JMD</b>	
7. THICKNESS OF OVERBURDEN <b>497.4</b>				8. DEPTH DRILLED INTO ROCK <b>37.9</b>		9. TOTAL DEPTH OF HOLE <b>459.5</b>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.4	1		SANDSTONE			PULL #1	
	2		m.-cs., m.h., m.gr.		Box 1	START 10:50	
	3		Thin bdd to 1.5			END 10:58	
	4					Time 8 min	
						DRL 8 min	
						RAN -	
					3.5	REC 4.7	
						LOSS 0	
						UNALL 0	
492.7	5		CLS / ICL		Box 2	DEP 4.9 T/DEP 4.7	
	6		m.-dk.gr.-r.br., s-			PULL #2	
	7		m.h., slt o.i.s.gr.cl.		7.1	START 11:00	
	8		4.7-4.8 m. SPACED SLT			END 11:10	
	9		PTs. ocl sly grading			Time 10 min	
	10		MORE sly w/depth			DRL 10 min	
	11		bkn 15.0-15.6 w/s.gr			RAN -	
	12		CL. COA. @ 15.6		Box 3	REC 5.2	
	13					LOSS 0	
	14					UNALL 0	
	15				10.7	DEP 9.9	
481.8	16		SANDSTONE			PULL #3	
	17		SLY, fig., m.h., m.gr.		Box 4	START 11:14	
	18		UE. sly 15.6-16.0			END 11:25	
	19					Time 11 min	
	20					DRL 11 min	
						RAN -	
						REC 3.5	
						LOSS 0	
						UNALL 0	
					13.9	DEP 13.9	
						PULL #4	
					Box 5	START 11:30	
						END 11:40	
						Time 10 min	
						DRL 10 min	
						RAN -	
					17.1	REC 5.0	
						LOSS 0	
					Box 6	UNALL 0	
478.6						DEP 18.5 T/DEP 18.4	
			CLS - sly			PULL #5	
			SLI. sly, s-m.h., m-dk gr. (cont)		(CONT)	START 12:15	
						(CONT)	

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PROJECT GALLIPOLIS LOCK 1 DAM HOLE NO. R-51/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. P-51/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS-SLY		Box 4	PULL#5 END 12:32
	21		ANG., SLK. DTg. 20.1-20.3		21.0	TIME 7min UNAC &
	22		LESS SLY w/depth			DRL 7min
	23		MOTTED ICL @ 22.0-		Box 7	RAN - T/DEP 23.2
	24		22.8 SLY @ 23.5-24.3			REC 3.8
	25		TRANS 24.3-25.5			LOSS &
471.9						DEP 25.5
	26		ICL		Box 8	PULL#6 START 12:30 END 12:45 TIME 15min DRL 15min RAN - REC 2.1 LOSS & UNAC &
	27		mottled R.B.R. S-m.h.			PULL#7 START 1:00 END 12:0 TIME 20min UNAC &
	28		SLK S. - 25.8 - 27.0		28.1	DRL 20min
	29		UE. bkn 27.0-29.5			RAN -
	30		R.B.R. STARTING @ 29.5		Box 9	DEP 29.6 T/DEP 29.5
	31					PULL#8 START 1:27 END 1:50 TIME 23min DRL 23min RAN - REC 3.1 T/DEP 32.4
	32				31.5	LOSS &
	33				10	UNAC &
	34					DEP 34.9
	35				35.1	PULL#9 START 2:05 END 2:30 TIME 25min DRL 25min RAN - REC 5.3 LOSS & UNAC &
459.5						DEP 38.0 T/DEP 37.9
	38		BOTTOM HOLE		37.9	
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. P-51/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4x5 1/2"			
3. DRILLING AGENCY		MDO R-52 STA 3438B		11. DAY FOR ELEVATION SHOWN (FTH - MSL)			
4. HOLE NO. (As shown on drawing title and file number)		R-52/1		12. MANUFACTURER'S DESIGNATION OF DRILL		M.S.L.	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		497.0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.3		16. DATE HOLE		STARTED 1/23/89 COMPLETED 1/23/89	
9. TOTAL DEPTH OF HOLE		458.7		17. ELEVATION TOP OF HOLE		497.0	
				18. TOTAL CORE RECOVERY FOR BORING		38.3	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		SANDSTONE			PULL #1	
	2		M.C.G., M.H., M.G.R.			START 4:27	
						END 4:45	
						TIME 18 min LOSS 1.1	
						DRL 18 min	
						RAN 37	
						REC 2.9	
494.2	3		CLS			DLP 5.7	
	4		M.D.K.G.R. S-M-H			T/DLP 9.0	
	5		1.1 LC 2.8-3.9 (MECH. S			PULL #2	
	6		MAT) 5.6-7.3; BKN			START 5:03	
	7		7.3-7.6			END 5:15	
	8					TIME 12 min	
						DRL 12 min	
						RAN 50	
						REC 4.7	
488.9	9		SLS			LOSS 0	
			SA, M.-DK.G.R. S-M-H			UNACL 0	
487.6	10		CLS			DEPT/DLP 8.7	
	11		M.-DK.G.R., S-M-H.			PULL #3	
	12		BKN. R. BR. SLK. ILL			START 5:29	
	13		20 10.9-12.1 BKN WSLK			END 5:34	
	14		13.2-13.7; 0.1 S.G.R. CL			TIME 5 min	
	15		13.7-13.8: BECOMING			DRL 5 min	
	16		SHY BELOW EL 483.4			RAN 7.0	
	17					REC 4.9	
	18					LOSS 0	
	19					UNACL 0 T/DLP 13.6	
481.0	20		SANDSTONE			DEP 15.7	
			SLY, FLY, M.H., M.G.R			PULL #4	
			Q2 CLS LCN 17.0-17.2			START 5:33	
479.1			CLS			END 6:34	
			SHY, S-M-H., M.-DK.G.R			TIME 61 min	
			(CONT)			DRL 61 min	
						RAN 7.4	
						(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-52/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				4970		E-52/1	
GALLIPOLIS Lock & Dam				INSTALLATION		SHEET 2	
				ORH-CP		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		CLS.			PULL #4	
	21		CLOSELY SPACED CLAY		6	REC 8.9	
	22		0.6) HOR PTG, W/OCC			LOSS 0.1	
	23		TR. GP. CL. COB 0.2 UE		22.6	UNAC 0.1	
	24		S. GP. CL. @ 20.5-20.7			T/DEP 22.6	
	25		BKN 20.7-21.5 W/O.1			DCP 23.1	
472.2	26		L.C. BKN MECH			PULL #5	
	27		22.3-22.6		7	START 6:55	
	28		GRADING			END 7:19	
	29		ILL			TIME 24min	
	30		NOTTER. R. DR, S. MA		26.3	DEL 24min	
	31		SLK 5. 25.3-30.9 W/O.1			RAN 7.6	
	32		LC BTWN 30.0 & 30.9		8	REC 8.2	
	33		0.3 LC BTWN 30.9 &			LOSS 0.1	
	34		38.3			UNAC 0.1	
	35				30.0	DCP 30.7	
	36					T/DEP 30.9	
	37				9	PULL #6	
	38					START 7:42	
	39				33.7	END 8:20	
	40					TIME 28min	
	41					DEL 28min	
	42					RAN 7.8	
	43				10	RUN 7.1	
	44					LOSS 0.3	
	45					UNAC 0.3	
458.7	46		BOTTOM HOLE		38.3	DCP 38.5	
	47					T/DEP 38.3	
	48						
	49						
	50						
	51						
	52						
	53						
	54						

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT GALLIPOLIS Lock & Dam  
HOLE NO. E-52/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>R-52/2</u>	
1. PROJECT <u>Ballipolis Lock &amp; DAM</u>		<u>ORD</u>		<u>OPH-CD</u>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <u>MONO R-52 STA 3+06.8</u>				10. SIZE AND TYPE OF BIT <u>4x5 1/2"</u>		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>	
3. DRILLING AGENCY <u>W. B. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-52/2</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <u>N/A</u>		UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>STEVE FRY</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED <u>11/24/89</u> COMPLETED <u>11/24/89</u>			
7. THICKNESS OF OVERBURDEN <u>497.1</u>				17. ELEVATION TOP OF HOLE <u>497.1</u>			
8. DEPTH DRILLED INTO ROCK <u>38.1</u>				18. TOTAL CORE RECOVERY FOR BORING <u>38.1</u>		19. SIGNATURE OF INSPECTOR <u>JMD</u>	
9. TOTAL DEPTH OF HOLE <u>459.0</u>							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		SANDSTONE m.-cg, m.h., m.gr			PULL #1 START 5:20 END 6:50 TIME 90min LOSS 0.7 DRL 20min UNALL 0.7 RAN 3.4' REL 2.7 DEPT/T/DEP 2.7	
	2		BKN. w/o. 7 L.C. 0.0-2.7		Box 1		
	3						
	4						
492.1	5		CLS			PULL #2 START 7:00 END 7:10 TIME 10min DRL 10min RAN 4.8 REL 4.8	
	6		S.-m.h., m.-dk.gr. U.E.S. SE. 6.4-6.5		Box 2	LOSS 0 UNALL 0	
490.6	7		SLs			T/DEP 7.2	
	8		S.-m.h., m.-dk.gr		7.8	DEP 7.7	
	9		GRADING				
487.5	10		CLS			PULL #3 START 7:15 END 7:26 TIME 11min DRL 11min UNALL 0.7 RAN 4.5 REL 3.8 LOSS 0.7 DEP 12.1 T/DEP 12.0	
	11		S.-m.h., m.-dk.gr. silty w/gr. cl. cgl. fld. pgs		Box 3		
	12		UE BKN. 10.0-12.0 w/o. 7 L.C.		12.0		
	13		UE BKN w/gr. fld.				
	14		SE 16.2-16.8				
	15						
	16						
480.3	17		SLs			PULL #4 START 7:42 END 8:02 TIME 20min DRL 20min RAN 7.0 REL 7.0	
	18		SLi, SA, S.-m.h., m.-dk. gr. GRADING		Box 4	LOSS 0 UNALL 0	
	19				15.6		
478.1	20		SLs			T/DEP 19.0	
			CLV, S.-m.h., m.-dk.gr (cont)		19.0 Box 5	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT Ballipolis Lock & Dam HOLE NO. R-52/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS LOCK & DAM			ORH-CD		2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.3	20		SLT (CONT) grading		Box 6	DEP 20.4
	21		CLS			PULL #5
	22		shy, 5-m.h., m.d.k.g.r.			START 8:45
	23		Closely spaced PTGS	22.7		END 9:15
	24		w/ 9R CL LOS & SE.			Time 30 min
	25		2.5 L.C. b/twn 21.8 & 28.2		Box 7	DRL 30 min
	26					RAN 9.2
	27					REC 8.7
468.9	28					LOSS 0.5
	29		ICL			UNACC 0.5
	30		R. br, 5-m.h., bkn. w/ slt	29.0		T/DEP 28.2
	31		0.5 L.C. b/twn 28.2 & 35.3		Box 8	DEP 30.1
	32		0.1 L.C. b/twn 35.3 & 38.1			PULL #6
	33					START 9:36
	34					END 10:05
	35					Time 29 min
	36			32.8		DRL 29 min
	37					RAN 7.1
	38					REC 6.6
	39				Box 9	LOSS 0.5
	40					UNACC 0.5
	41					T/DEP 35.3
	42					DEP 35.6
459.0	38		BOTTOM HOLE		Box 10	PULL #7
	39					START 22:55
	40					END 23:12
	41					Time 17 min
	42			38.1		DRL 17 min
	43					RAN 3.0
	44					REC 2.9
	45					LOSS 0.1
	46					UNACC 0.1
	47					DEP 39.1

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-52/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <b>A-53/1</b>	
		<b>ORD</b>		<b>ORN-CD</b>		<b>Sheet</b>	
						<b>OF 2 SHEETS</b>	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinate or Station) <b>MOAD R-53 STA 2+96.8</b>				11. DATUM FOR ELEVATION SHOWN (FMS or BM) <b>M.S. 4</b>			
3. DRILLING AGENCY <b>W. G. JAGUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>A-53/1</b>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
				UNDISTURBED <b>N/A</b>			
5. NAME OF DRILLER <b>STUE FRY</b>				14. TOTAL NUMBER CORE BOXES <b>11</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0 497.4</b>				16. DATE HOLE STARTED <b>1/23/87</b> COMPLETED <b>1/24/87</b>			
8. DEPTH DRILLED INTO ROCK <b>37.8</b>				17. ELEVATION TOP OF HOLE <b>497.4</b>			
9. TOTAL DEPTH OF HOLE <b>459.6</b>				18. TOTAL CORE RECOVERY FOR BORING <b>37.8</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SANDSTONE M.-C.G., M.H., M.GR BKN. INTO SM. PIECES (MAX 0.4) 0.0-3.6		Box 1	PULL #1 START 9:05 END 9:13 TIME 8 min DRL 8 min RAN 5.0 REC 5.0 LOSS 0 UNACL 0
492.8	2				3.6	
	3					
	4					
	5		CLS M.-dk. GR, S.-M.H., OCC. SLK VE. S. 4.6- 5.5; BKN. W/S ZON 5.3-9.8 W/O. & L.C. GRADING		Box 2	PULL #2 START 9:24 END 9:36 TIME 12 min DRL 12 min RAN 4.8 REC 4.4 LOSS 0.4 UNACL 0.4 DEP+T/DEP 9.8
	6				7.3	
	7					
	8					
	9				Box 3	
	10					
486.4	11		ICL R.B.R., S.-M.H., SLK VE. BKN 11.6-12.6		11.3	PULL #3 START 9:50 END 10:20 TIME 30 min DRL 30 min RAN 8.4 REC 7.4 LOSS - UNACL -
484.8	12				Box 4	
	13		CLS/SLK INTERBED, S.-M.H., M.-dk. GR. OCC. SHY.; OCC. GR. CH. COR & FLD PTG: BTWN. DIFFER MATERIALS: BKN (MCLH) 16.9-17.2		14.9	
	14					
	15					
	16				Box 5	
480.2	17					T/DEP
	18		SANDSTONE SLY-F.G., M.H., M.GR GRADING		18.5	DEP 18.2
478.4	19				Box 6	PULL #4 START 10:43 END 11:03 (CONT)
	20		CLS (CONT)		(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **A-53/1**

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2	
GALLIPOLIS LOCK & DAM				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		CLS		Box 6	PULL #4	
	21		occ. shly, m. dk. gr.,			Time 20 min	
	22		S.-m. h., pts shly			DEL 20 min	
	23		gr. cl coa, hor. ptg.		22.2	RAN 7.2	
	24		@ 19.4, 20.9: Becoming		Box 7	REC 8.1	
	25		shly @ 20.3, 0.1 S. gr. cl			LOSS 0	
	26		SE @ 24.0 S. (overdrilled)			UNACCL 0	
	27		24.7-25.3				
	28		grading				
471.5	29				25.6	DEP 25.3 T/DEP 25.1	
	30		ICL		Box 8	PULL #5	
	31		mottled - r. br, S.-m. h			START 23.15	
	32		SLK			END 23.35	
	33					Time 18 min	
	34					DEL 18 min	
	35					RAN 5.9	
	36				29.2	REC 5.9	
	37					LOSS 0	
	38				Box 9	UNACCL 0	
	39					DEP + T/DEP 31.2	
	40				32.8	PULL #6	
	41					START 7.30	
	42					END 8.00	
	43				Box 10	Time 30 min	
	44					DEL 30 min	
	45					RAN 6.6	
	46					REC 6.6	
	47					LOSS 0	
	48				36.3	UNACCL 0	
459.6	49				Box 11		
	50		BOTTOM HOLE		37.8	T/DEP 37.6	
	51					DEP 37.9	

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-53/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <b>R-53/2</b>	
		<b>ORD</b>		<b>QRH-CD</b>		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>Gallipolis Lock &amp; Dam</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinates or Section) <b>Mano R-53 STA 2468 B</b>				11. DAYUM FOR ELEVATION SHOWN (True or Mean) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W.G. JAMES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-53/2</b>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVE HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0</b> <b>497.0</b>				16. DATE HOLE STARTED <b>1/25/89</b> COMPLETED <b>1/25/89</b>			
8. DEPTH DRILLED INTO ROCK <b>37.4</b>				17. ELEVATION TOP OF HOLE <b>497.0</b>			
9. TOTAL DEPTH OF HOLE <b>459.6</b>				18. TOTAL CORE RECOVERY FOR BORING <b>37.4</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE			PULL #1
	2		M.C.G., m.h., m.g.e.		Box 1	START 7:20 END 7:32 TIME 12 min DRL 12 min RAW - REC 4.3
	3		Thin bdd. to 1.2		3.7	LOSS 0 UNACC 0 T/DEP 4.3
	4		ANG (70°) S.G.R.CL.FLD			
	5		CONTACT			DEP 5.0
	6				Box 2	PULL #2 START 7:40 END 7:51 TIME 11 min DRL 11 min RAW - REC 3.0 T/DEP 8.1
489.6	7				7.3	LOSS 0 UNACC 0 DEP 9.4
	8		SLS			
	9		Chy, s.-m.h., m.-dk.gr		Box 3	START 8:00 END 8:31 TIME 31 min DRL 31 min RAW - REC 7.9 LOSS 0.9 UNACC 0.9
	10		HA.-UCRT, hld, ILL FRAL			
	11		8.5-24.55 LENS. 9.5-10.0			
	12		GRADING			
486.6	13				Box 4	PULL #3 START 8:00 END 8:31 TIME 31 min DRL 31 min RAW - REC 7.9 LOSS 0.9 UNACC 0.9
	14		CLS			
	15		m.-dk.gr., s.-m.h., slt			
	16		w/ tr. - LENS OF S.G.R.CL			
	17		UE bkn 11.1-14.9 w/hvy.			
	18		GR CL. COA 0.9 & 0.9 & 0.9			
	19		SLS LENS 13.2-13.9			
	20		hvy. gr. cl. COA PTGS			
	21		@ 16.1, 16.3 + 16.8			
480.1	22				Box 5	DEPT/DEP 16.9
	23		SLS			
	24		sq, m.h., m.-dk.gr			
	25		45° SLK PTG @ 18.1-18.5			
	26		GRADING INTO			
477.5	27				Box 6	PULL #4 START 9:00 END 9:35 TIME 35 min
	28		CLS (CONT)		CONT	(CONT)

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PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **R-53/2**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.0		Hole No. R-53/2	
PROJECT GALLIPOLIS Lock & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #4
	21		S.-M.H., M.-dk. gr., sh.			DEL 35 min
	22		W/OCC. TR. & gr. CL. COA.			RAN -
	23		HOR PTg. SLY 23.5-26.1		22.7	REC 9.2
	24		TRAN. 26.1-28.3 w/OCC.			LOSS 0
	25		SLK, IRR PTg.		Box 7	UNACC 0
	26				26.1	
	27					TIDEP 26.7 DEP 26.9
468.7	28				Box 8	PULL #5
	29		ICL			START 9:53
	30		R. & S.-M.H., bkn,		29.8	END 10:18
	31		SLK 3.1 L.C. bTwn			TIME 25 min
	32		30.3 & 37.4			DEL 25 min
	33				Box 9	RAN - TIDEP 30.3
	34					REC 4.2
	35					LOSS 0
	36					UNACC 0
	37					DEP 32.9
459.6	38				33.5	PULL #6
	39					START 10:27
	40				Box 10	END 11:18
	41					TIME 5 min
	42					DEL 5 min UNACC 3.1
	43					RAN -
	44					REC 4.0
	45					LOSS 3.1
			BOTTOM HOLE		37.4	DEPTIDEP 37.4

BNG FORM  
JAN 67 1836-A

(SR 1110-1-1801)

GPO 1980 OF - 828-603

PROJECT

GALLIPOLIS Lock & DAM

HOLE NO.

R-53/2



DRILLING LOG		Division		INSTALLATION		Hole No. <i>R-54/1</i>	
		<i>ORD</i>		<i>ORH-CD</i>		SHEET OF 2 SHEETS	
1. PROJECT <i>GALLIPOLIS Lock + DAM</i>				10. SIZE AND TYPE OF BIT <i>4.5 1/2"</i>			
2. LOCATION (Coordinates or Station) <i>MONO R-54 STA 2158 B</i>				11. DAY FOR ELEVATION SHOWN (TBM or MSL) <i>M.S.L.</i>			
3. DRILLING AGENCY <i>W. C. JACOBS</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>R-53 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>R-54/1</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i>	
						UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>DAVE HARPER</i>				14. TOTAL NUMBER CORE BOXES <i>10</i>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <i>N/A</i>			
7. THICKNESS OF OVERBURDEN <i>@ 497.0</i>				16. DATE HOLE STARTED <i>12/24/89</i> COMPLETED <i>12/24/89</i>			
8. DEPTH DRILLED INTO ROCK <i>37.1</i>				17. ELEVATION TOP OF HOLE <i>497.0</i>			
9. TOTAL DEPTH OF HOLE <i>459.9</i>				18. TOTAL CORE RECOVERY FOR BORING <i>37.1</i> %			
				19. SIGNATURE OF INSPECTOR <i>JMN</i>			

ELEVATION <i>a</i>	DEPTH <i>b</i>	LEGEND <i>c</i>	CLASSIFICATION OF MATERIALS (Description) <i>d</i>	% CORE RECOVERY <i>e</i>	BOX OR SAMPLE NO. <i>f</i>	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) <i>g</i>
497.0	1		SANDSTONE <i>m.c.g., m.h., m.g bkn into sm. pieces 0.0-2.0</i>		1	PULL #1 START 8:21 END 8:31 TIME 10 min DRL 10 min RAN - REC 4.9 LOSS 0 UNALL 0
492.1	5		ICL <i>R. br, s.-m. br, SLK S. 20 w/ga. cl @ 49- 0.8 L.C. 6TUN 49' 0.9</i>		2	DEP 5.0 T/DEP 4.9 PULL #2 START 9:01 END 9:20 TIME 19 min DRL 19 min RAN - REC 4.1 LOSS 0 UNALL 0
486.0	11		CLS/SLK <i>Interbedd, m-dk. gr., s.-m.h. CLS 20. VE. S.</i>		3	DEP + T/DEP 8.8 PULL #3 START 9:01 END 9:20 TIME 19 min DRL 19 min RAN - REC 4.1 LOSS 0 UNALL 0
481.4	15				4	DEP + T/DEP 13.0 PULL #4 START 9:34 END 9:56 TIME 32 min DRL 32 min RAN - REC 3.8 LOSS 0 UNALL 0
478.9	18		SANDSTONE <i>SLY, P.g., m.h., m.g R grading</i>		5	DEP + T/DEP 16.8 PULL #5 START 10:08 END 10:50 TIME 22 min DRL 22 min
	19		CLS <i>S.-m.h., m.-dk. gr., sly sly 18.7-19.4</i>		6 (cont)	(CONT)
	20		(CONT)			(CONT)

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PROJECT *GALLIPOLIS Lock + DAM* HOLE NO. *R-54/1*

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. R-54/1	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK & DAM			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS			PULL #5
	21		Closely spaced (max .0.4) sky DTGS, w/occl.		6	RAN -
	22		GR. CL. CDA. STARTING @ 20.1' 0.3 L.C. BTWN			REC 7.5
	23		20.1' 29.6		22.3	LOSS 0.3
	24					UNALL 0.3
472.4						
	25		ICL		7	DEP + T/DEP 24.6
	26		Mottled - R. br. S-M.H.		23.9	PULL #6
	27		SLK. bkn 25.0 - 25.9			START 10:49
	28		S. 25.9 - 27.6 w/bkn		8	END 11:15
	29					TIME 26 min
	30					DRL 26 min
	31				9	RAN -
	32					REC 8.3
	33				29.7	LOSS 0
	34					UNALL 0
	35					
	36				10	DEP + T/DEP 32.9
459.9	37		Bottom Hole		33.2	PULL #7
	38					START 12:20
	39					END 12:40
	40					TIME 20 min
	41					DRL 20 min
	42					RAN -
	43					REC 4.4
	44				37.1	LOSS 0
						UNALL 0
						DEP + T/DEP 37.3

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1960 OF - 628-503

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

R-54/1

DRILLING LOG		DIVISION	INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS Lock & DAM		02D	02N-CD			
2. LOCATION (Coordinates or Station) MONO R-54 STA 2130B						
3. DRILLING AGENCY W. B. JAMES						
4. HOLE NO. (As shown on drawing title and file number) R-54/2						
5. NAME OF DRILLER STEVE FRY						
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.						
7. THICKNESS OF OVERBURDEN 0 497.0						
8. DEPTH DRILLED INTO ROCK 39.6						
9. TOTAL DEPTH OF HOLE 457.4						
10. SIZE AND TYPE OF BIT 4 1/2"						
11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.						
12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOD. LE						
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A	UNDISTURBED N/A			
14. TOTAL NUMBER CORE BOXES 11						
15. ELEVATION GROUND WATER N/A						
16. DATE HOLE 1/24/89		STARTED 1/24/89		COMPLETED 1/24/89		
17. ELEVATION TOP OF HOLE 497.0						
18. TOTAL CORE RECOVERY FOR BORING 39.6						
19. SIGNATURE OF INSPECTOR JMD						
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE M.-CG, M.H., M.G.R., TAIN		Box 1	PULL #1 START 8:05 END 8:15 TIME 10 min DRL 10 min RAN 4.9 REC 4.9 LOSS 0 UNAC 0 T/DEP 4.0
492.5	4				3.7	UNAC 0 T/DEP 4.0
	5		CLS M.-dk. gr., S.-m.h., occ SLK, occ sly VE. S. 51-61: 95° SLK PTg @ 9.7-10.0: grading sly with depth: CL ALD PTgs @ 12.6: 12.8		Box 2	DEP 4.9 PULL #2 START 8:25 END 8:40 TIME 15 min DRL 15 min RAN - REC 5.0 LOSS 0 UNAC 0
	6				8.4	REC 5.0
	7				Box 3	LOSS 0
	8				11.7	UNAC 0
	9					DEP + T/DEP 10.0
	10					PULL #3
	11					START 8:45 END 9:05 TIME 20 min DRL 20 min RAN -
484.2	12					REC 4.2
	13		SLK/CLS		Box 4	LOSS 0
	14		M.-dk. gr., S.-m.h., PT.		15.3	UNAC 0 T/DEP 13.7
	15		sly: gr, CL, coa, PTgs			DEP 15.0
	16		@ 17.4: 17.5: grading			PULL #4
	17		SA.		Box 5	START 9:15 END 9:25 TIME 10 min DRL 10 min RAN -
479.1	18					LOSS 0 UNAC 0
	19		SANDSTONE sly, PTg., M.H., M.G.R. SLK. ANG., sly PTg @ 18.7 grading SLK/CLS		19.1	REC 5.2
477.1	20				Box 6	DEP + T/DEP 18.6
					CONT	PULL #5 START 9:35 END 9:55 TIME 20 min (CONT)

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No. <i>R-54 1/2</i>	
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
<i>GALLIPOLIS LOCKE DAM</i>		<i>ORH-CD</i>				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		<i>SLS/CLS</i>		<i>Box 6</i>	<i>DRL 20 min</i> <i>RAN -</i> <i>REL 1.3</i>  <i>DEPT+TIDEP 21.3</i>
	21		<i>Interbedd., m-clk. gr. s.-m.h.</i>			<i>PULL #6</i>
	22		<i>shy closely spaced shy</i>			<i>START 10:15</i>
<i>474.4</i>			<i>PTGS 22.1-23.2 w/tp. gr.</i>			<i>END 10:25</i>
			<i>CL. ALD/COG bdd PLNS</i>		<i>22.5</i>	<i>Time 10 min</i>
			<i>SLK, SLS LAM @ 22.5-22.6</i>		<i>Box 7</i>	<i>DRL 10 min</i>
	23		<i>CLS</i>			<i>RAN -</i>
	24		<i>shy. m-dk. gr. s.-m.h.</i>			<i>REL 2.4</i>
	25		<i>TRANS 25.4-30.0</i>			<i>LOSS 0</i>
	26					<i>UNACC 0</i> <i>TIDEP 4.6</i>
	27					<i>DEPT 25.0</i>
	28				<i>Box 8</i>	<i>PULL #7</i>
	29					<i>START 10:27</i>
<i>467.0</i>	30		<i>ICL</i>		<i>26.0</i>	<i>END 10:35</i>
	31		<i>R. br. s.-m.h. bkn, SLK</i>			<i>Time 10 min</i>
	32				<i>Box 9</i>	<i>DRL 10 min</i>
	33					<i>RAN 4.9</i>
	34				<i>33.2</i>	<i>REL 4.9</i>
	35					<i>LOSS 0</i>
	36				<i>Box 10</i>	<i>UNACC 0</i>
	37					<i>DEPT+TIDEP 35.7</i>
	38				<i>36.7</i>	<i>PULL #9</i>
	39					<i>START 23:15</i>
<i>457.4</i>	40		<i>Bottom HOLE</i>		<i>Box 11</i>	<i>END 23:25</i>
	41					<i>Time 10 min</i>
	42					<i>DRL 10 min</i>
	43					<i>RAN 3.9</i>
	44				<i>39.6</i>	<i>REL 3.9</i>
						<i>LOSS 0</i>
						<i>UNACC 0</i>
						<i>TIDEP+DEP 39.6</i>

ENG FORM  
A-17

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT

*GALLIPOLIS LOCKE DAM*

HOLE NO.

*R-54 1/2*

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>R-55/1</u>	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>		<u>ORH-CD</u>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) <u>MONO R-55 STA 2+70 B</u>				10. SIZE AND TYPE OF BIT <u>4x5 1/2"</u>		11. DATUM FOR ELEVATION SHOWN (TBM or MLL)	
3. DRILLING AGENCY <u>D. G. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>M.S.L.</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-55/1</u>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <u>N/A</u>		UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>DAVE HARPER</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED <u>1/24/89</u> COMPLETED <u>1/24/89</u>			
7. THICKNESS OF OVERBURDEN <u>0 497.0</u>				17. ELEVATION TOP OF HOLE <u>497.0</u>			
8. DEPTH DRILLED INTO ROCK <u>38.5</u>				18. TOTAL CORE RECOVERY FOR BORING <u>38.5</u>			
9. TOTAL DEPTH OF HOLE <u>458.5</u>				19. SIGNATURE OF INSPECTOR <u>LMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.0			SANDSTONE			PULL #1	
495.6	1		M.G., m.h., m.gr., ve		Box 1	START 7:30 END 7:45 TIME 15min DRL 15min RAN - REC 4.6 LOSS 0 UNACQ 0	
493.5	2		CLS			T/DEP 9.6	
	3		shy., m-dk.gr., s-mh w/occ.gr. cl. coa. ONPTS				
	4		SANDSTONE		Box 2	DEP 5.1 PULL #2	
	5		m.g., m.h.-h., m.gr			START 7:50 END 8:00 TIME 10min DRL 10min RAN - REC 5.7 LOSS 0 UNACQ 0	
	6		shy. 3.5-9.0			T/DEP 9.6	
490.9	7		TRANS 6.1-6.6		Box 3	DEP 10.1 PULL #3	
	8		CLS			START 8:05 END 8:14 TIME 9min DRL 9min RAN - REC 5.0 LOSS 0 UNACQ 0	
	9		shy., m-dk.gr., s-mh w/occ.gr. cl. coa. ONPTS: VE OKN 7.0-8.0				
	10		CPROB AREA OF 0.7		Box 4	DEP 15.1 PULL #4	
	11		L.C.; OKN 8.3-14.6 w/			START 8:18 END 8:25 TIME 7min DRL 7min RAN - REC 5.1 LOSS 0 UNACQ 0	
	12		0.8 L.C.			T/DEP 9.7	
	13				Box 5		
	14						
482.9	15		SANDSTONE			DEP 15.6	
	16		shy, fig., m.h., m.gr			PULL #4	
480.5	17		cl. s.dk gr. FAT clays			START 8:18 END 8:25 TIME 7min DRL 7min RAN - REC 5.1 LOSS 0 UNACQ 0	
479.8	18		18.8-18.9			T/DEP 9.7	
	19		CLS				
	20		shy, s.dk. m.h., m-dk.gr.				
			g-cl. coa. contact @ 16.5				
			GRADING INTO				
			CLS				
			s-mh., m-dk.gr				
			shy CLOSELY SPACED				
			(CONT)				

ENG FORM 1836  
MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK & DAM HOLE NO.  
R-55/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.0		Hole No. A-55/1		
PROJECT GALLIPOLIS LOCK DAM		INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	DEPT 20.1
	21		PTGS W/TA.GR CL COA			PULL #5
	22		20.5 S. - 22.3 & 23.6 ZR4			START 8:30
	23					END 8:45
	24					TIME 15 min
	25					DEL 13 min
	26				23.2	RAN —
472.6	27					REC 4.7
	28				Box 7	LOSS 0
	29					UNWALL 0 TIDEP 24.1
	30		ICK			DEP 24.6
	31		mottled - R. br, S. M.A.			PULL #6
	32		SLK, VE 3. W/TA CL ZR4			START 8:55
	33		25.8 TURNING R. br @		26.8	END 9:20
	34		25.8			TIME 25 min
	35		0.8 LC BTWN 25.8 & 30.0			DRL 25 min
	36		0.7 LC BTWN 30.0 & 38.5		Box 8	RAN —
	37					REC 4.1
	38					LOSS 0.5
	39					UNWALL 0.5 DEP 29.1
	40					TIDEP 29.9
	41				31.2	PULL #7
	42					START 9:28
	43					END 10:14
	44					TIME 46 min
	45					DEL 23 min
	46				Box 9	RAN —
	47					REC 4.5
	48					LOSS 0.4
	49					UNWALL 0.4
	50					DEPT TIDEP 24.1
	51				35.0	PULL #8
	52					START 10:23
	53					END 10:53
	54				Box 10	TIME 30 min
	55					DEL 30 min
	56					RAN —
	57					REC 5.6
458.5	58					LOSS 0
	59		BOTTOM HOLE		38.5	UNWALL 0
	60					DEP 39.1
	61					DEP 39.6
	62					
	63					
	64					

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

A-55/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>R-55/2</u>	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>		<u>ORH-CD</u>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <u>MOND R-55.2 STA 1+85</u>				10. SIZE AND TYPE OF BIT <u>4.5" S.S.L</u>		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY <u>W. B. JONES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-55/2</u>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>WAYNE TICE</u>				14. TOTAL NUMBER CORE BOXES <u>11</u>		UNDISTURBED <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>0</u>		<u>497.0</u>		16. DATE HOLE <u>1/25/89</u>		STARTED <u>1/25/89</u>	
8. DEPTH DRILLED INTO ROCK <u>39.1</u>		<u>497.0</u>		17. ELEVATION TOP OF HOLE <u>497.0</u>		COMPLETED <u>1/25/89</u>	
9. TOTAL DEPTH OF HOLE <u>457.9</u>				18. TOTAL CORE RECOVERY FOR BORING <u>39.1</u>		19. SIGNATURE OF INSPECTOR <u>JMD</u>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.0	1		SANDSTONE			PULL #1	
	2		m.-c.g., m.h., m.gr		1	START 7:30	
	3		Thin bdd to 1.4			END 7:45	
	4					TIME 15min	
	5					DRL 15min	
	6					RAN -	
	7					REC 9.6	
493.1	8		CLS		3.7	LOSS 0	
	9		S.m.h., m.-dk.gr sh			UNACC 0	
491.5	10					T/DEP 9.6	
	11		SLs		2	DEP 5.1	
	12		SA, S.m.h., m.-dk.gr			PULL #2	
	13					START 7:50	
	14					END 8:00	
	15					TIME 10min	
	16					DRL 10min	
	17					RAN -	
	18					REC 5.2'	
	19				3	LOSS 0	
	20					UNACC 0	
489.5	21		CLS		10.2	T/DEP 9.8	
	22		Shy. S.m.h., m.-dk.gr			DEP 10.1	
	23		Closely SPACED IRR SLK			PULL #3	
	24		PTGS TO 11.0' SLK PTGS			START 8:05	
	25		@ 12.3' 12.5' 5 14.8' 15.1		4	END 8:14	
	26					TIME 9min	
	27					DRL 9min	
	28					RAN -	
	29					REC 5.0	
	30				13.8	LOSS 0	
481.9	31		SANDSTONE			UNACC 0	
	32		Shy fig., m.h., m.gr		5	T/DEP 14.8	
	33		GRADING INTO			DEP 15.1	
480.9	34		SLs			PULL #4	
	35		SA, S.m.h., m.-dk.gr			START 8:18	
	36		PTS. SHY IRR, SLK, PTG			END 8:25	
	37		@ 17.3 GRADING			TIME 7min	
	38					DRL 7min	
	39				6	RAN -	
	40					REC 5.1	
477.9	41		CLS		(CONT)	LOSS 0	
	42		(CONT)			UNACC 0	
	43					T/DEP 19.7	
	44					DEP 20	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-55/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2	
GALLIPOLIS LOCK DAM				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		CLS		6	PULL #5	
	21		S-M.H., med. gr, occ		20.9	START 8:30	
	22		shy w/closely spaced			END 8:45	
	23		IRR SLK. pTgs TO 22.6		7	TIME 15min	
	24		TRANS 24.6-25.8			DRL 15min	
	25					RAN -	
						REC 4.7	
						LOSS 0	
					29.4	UNACC 0	
471.2						TIDEP 24.6	
						DEP 25.1	
	26		ICL		8	PULL #6	
	27		R.B.R. S-M.H., bkn			START 8:55	
	28		w/SLK		28.1	END 9:20	
	29		0.5 L.C. btwn 25.8 & 27.2			TIME 25min UNACC 0.5	
	30		0.4 L.C. btwn 27.2 & 34.1			DRL 25min	
	31					RAN -	
	32					REC 4.1	
	33					LOSS 0.5	
	34					DEP 29.1	
	35					TIDEP 29.9	
	36				9	PULL #7	
	37					START 9:28	
	38					END 10:14	
	39					TIME 46min	
	40				32.1	DRL 28min	
	41					RAN -	
	42					REC 4.5	
	43					LOSS 0.4	
	44					UNACC 0.4	
	45				10	TIDEP + DEP 34.1	
	46					PULL #8	
	47					START 10:23	
	48				35.9	END 10:53	
	49					TIME 30min	
	50					DRL 30min	
	51					RAN -	
	52				11	REC 5.6	
	53					LOSS 0	
	54					UNACC 0	
457.9	55		BOTTOM HOLE		39.1	TIDEP 39.1	
	56					DEP 39.6	
	57						
	58						
	59						
	60						
	61						
	62						
	63						
	64						

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF-628-505

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

R-55/2



Page 363



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		ORD		ORH-CD		R-56/2	
2. LOCATION (Coordinate or Station)		STA 1490B		10. SIZE AND TYPE OF BIT		4 1/2" H"	
3. DRILLING AGENCY		W. G. JACOBS		11. DAYUM FOR ELEVATION SHOWN (Feet or Meters)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-56/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		WAYNE TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 497.2		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.8		16. DATE HOLE		STARTED 2/4/89 COMPLETED 2/4/89	
9. TOTAL DEPTH OF HOLE		459.4		17. ELEVATION TOP OF HOLE		497.2	
				18. TOTAL CORE RECOVERY FOR BORING		37.3	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of unsetting, etc., if significant)	
497.2			SANDSTONE			PULL #1	
496.1	1		M.C.S., M.H., M.G.R. BKN		Box 1	START 10:20	
	2		C.L.S.			END 10:30	
	3		M.-dk. gr., S.-m.h. locally			TIME 10 min	
	4		O. & S. gr. CL. 11-15' 95°			DEL 10 min	
	5		SLK PTG @ 4.0-4.2' 60		3.6	REC 5.1	
	6		PTG IN R. 60 ICL 20.65-			LOSS 0	
	7		6.9: GRADING INTO		Box 2	UNAC 0	
495.9	8		SANDSTONE			DEP 5.0	
	9		SL. A.G., M.H. M.G.R.			TIDEP 5.1	
495.7	10		C.L.S.			PULL #2	
	11		S.-m.h., M.-dk. gr. & sh			START 10:56	
	12		W/SLK LENS. VE. S. 9.7-9.8			END 11:05	
	13		SLY 11.1-11.5' 12.2		6.9	TIME 9 min	
	14					DEL 9 min	
	15				Box 3	RAN -	
	16					REC 5.11	
	17					LOSS 0	
	18					UNAC 0	
492.6	19		C.L.S.		10.2	DEP 10.2 TIDEP 10.1	
	20		S.-m.h., M.-dk. gr. & sh			PULL #3	
	21		W/SLK LENS. VE. S. 9.7-9.8		Box 4	START 11:19	
	22		SLY 11.1-11.5' 12.2			END 11:31	
	23					TIME 12 min	
	24					DEL 12 min	
	25				13.5	RAN -	
	26					REC 2.7	
	27					LOSS 0	
	28				Box 5	UNAC 0	
490.3	29		C.L.S.			DEP 5.2	
	30		S.-m.h., M.-dk. gr. & sh			PULL #4	
	31		W/SLK LENS. VE. S. 9.7-9.8			START 12:20	
	32		SLY 11.1-11.5' 12.2			END 12:27	
	33					TIME 7 min	
	34					DEL 7 min	
	35				17.3	RAN -	
	36					REC 4.8	
	37					TIDEP + DEP 17.9	
	38				Box 6	PULL #5	
	39					START 12:40	
	40					END 12:47	
	41					TIME 7 min	
	42					DEL 7 min	
	43					RAN -	
	44					REC 2.4	
	45					TIDEP 20.0	

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PROJECT GALLIPOLIS LOCK DAM

HOLE NO. R-56/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-56/2		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS LOCK & DAM		497.2 ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	DEP 20.1
476.1	21		grs-ucs		20.8	PULL #6
	22		ICL		Box 7	START 13:05
474.5			R.B.R., S.-M.H. bkn 21.2-			END 13:20
	23		21.6 W/SK			TIME 15min
	24		SLs			DEL 15min
472.9			Chy, S.-M.H., M.-dk. ge. mass			RAN -
	25		ICL		24.3	REL 4.2.
	26		MOLTED-R. BR, S.-M.H.,			LOSS 0
	27		bkn W/SK 0.2 LC Btwn		Box 8	UNAC 0
	28		24.3' 29.5, 11 LC Btwn			DEP 25.1
	29		29.5' 34.5			PULL #7
	30				Box 9	START 13:39
	31					END 13:52
	32					TIME 28min UNAC 0.2
	33				28.0	DEL 28min
	34					RAN -
	35					REC 5.0
	36					LOSS 0.2
	37					DEP 28.6 TIDED 28.1
	38					PULL #8
	39					START 14:20
	40					END 14:52
	41					TIME 32min
	42				32.7	DEL 32min
	43					RAN -
	44					REC 3.9
	45					LOSS 1.1
	46				Box 10	UNAC 1.1
	47					DEP 34.5
	48					PULL #9
	49					START 15:11
	50					END 15:27
	51					TIME 16min
	52					DEL 16min
457.3	53		BOTTOM HOLE		37.3	RAN -
	54					REL 3.2
	55					LOSS 0
	56					UNAC 0
	57					DEP 37.8
	58					
	59					
	60					
	61					
	62					
	63					
	64					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 628 - 803

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-56/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-5711	
PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinates or Station) MWD R-57 STA. 1430 B				11. DAY OF ELEVATION SHOWN (TIME = DEL)			
3. DRILLING AGENCY W. B. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-5711				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 10			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 497.0				16. DATE HOLE STARTED 2/2/89 COMPLETED 2/4/89			
8. DEPTH DRILLED INTO ROCK 37.9				17. ELEVATION TOP OF HOLE 497.0			
9. TOTAL DEPTH OF HOLE 459.1				18. TOTAL CORE RECOVERY FOR BORING 37.0			
				19. SIGNATURE OF INSPECTOR JMK			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		SANDSTONE M-C.G., M.H., M.G.R. TAIN		Box 1	PULL #1 START 22:15 END 22:30 TIME 15 min DEL 15 min RAN — REC 9.9 LOSS 0 UNACCLD	
495.4	2		CLS/SLS INTERBEDD. S-M.H. M-H.G.R.S.				
493.8	3		IL-2.1: BKN 2.9-3.2				
	4		SANDSTONE shy, f.g., M.H., M.G.R. 45°		3.8	REC 9.9 LOSS 0 UNACCLD	
	5		PTGS @ 3.8' 4.3, SLS. LON			DEPTH/DEP 4.9	
	6		5.0-5.4: BKN 5.4-5.9 ANG (45°) CONTACT		Box 2	PULL #2 START 22:38 END 22:48 TIME 10 min DEL 10 min RAN — REC 5.1 LOSS 0 UNACCLD	
490.6	7		CLS S-M.H., M-H.G.R., PTGS, SHY		2.4	DEL 10 min RAN — REC 5.1 LOSS 0 UNACCLD	
	8		W/IR G.R. CL COA & LENS				
	9		ON HOR PTGS BKN (MED)		Box 3	LOSS 0 UNACCLD	
	10		6.4-8.4 SLS LEN 10.1-10.7 BKN 11.7-12.0: ANY			DEPTH/DEP 10.0	
	11		G.R. CL. LENSES 12.0-14.7		11.1	PULL #3 START 23:00 END 23:25 TIME 25 min DEL 25 min RAN — REC 9.8 LOSS 0.4 UNACCLD 0.4	
	12		O. & L.C. 11.0-14.7				
	13				Box 4		
	14						
481.9	15		SLS S-M.H., M.G.R. HOR PTGS		14.7	REC 9.8 LOSS 0.4 UNACCLD 0.4	
	16		W/IR G.R. CL, COA @ 16.3		Box 5		
490.0	17		END. N.G. INTO				
	18		SLS SHY, S-M.H., M-H.G.R., PTGS		18.3		
	19		SHY W/CC G.R. CL COA ON HOR		Box 6	DEPTH/DEP 19.2	
477.9	20		PTGS GRADING INTO			PULL #4	
			CLS (CONT)				

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-5711

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
GALLIPOLIS LOCK DAM				ORH-CD		2	
ELEVATION				DEPTH		LEGEND	
CLASSIFICATION OF MATERIALS (Description)				% CORE RECOVERY		BOX OR SAMPLE NO.	
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)							
4730	20		CLS		Box 6	PULL#4	
	21		S.-m.h., m.-dk.gr. r.b.e			START 9:00	
	22		21.2-21.5 m SPACED			END 9:55	
	23		HOPPTS TO 24.0			TIME 55min	
	24				Box 7	DEL 55min	
	25		ICL			RAN -	
	26		dk.gr.-p.b.e, SLK S.-dk.b.e			REC 7.4	
	27		24.0-26.0, 0.5 L.C.B.W.N			LOSS 0.5	
	28		26.0 ! 27.1 becoming			UNACC 0.5	
	29		R.b.e @ 26.0 OKN W/LK		Box 8	T/DEP 28.1	
	30		27.1-31.4 0.9 L.C.B.W.N			DEP 27.9	
	31		31.4 370			PULL#5	
	32					START 10:12	
	33					END 10:40	
	34					TIME 28min	
	35					DEL 28min	
	36					RAN -	
	37					REC 4.3	T/DEP 31.7
	38				Box 9	LOSS 0	
	39					UNACC 0	
	40					DEP 32.9	
	41					PULL#6	
	42					START 10:55	
	43					END 11:21	
	44					TIME 26min	
	45				Box 10	DPL 26min	
	46					RAN -	
	47					ESC 4.7	
460.0	48		Bottom Hole		370	LOSS 0.7	T/DEP 37.1
	49					UNACC 0.9	
	50					DEP 37.0	

ENG FORM  
JAN 67

1836-A

(NR 1110-1-1801)

GPO 1969 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

R-57/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		6ALLIPOLIS Lock + Dam		10. SIZE AND TYPE OF BIT		4.5 IN	
3. DRILLING AGENCY		W.G. JACOBS		11. DAYH FOR ELEVATION SHOWN (YES or NO)		M.S.L	
4. HOLE NO. (As shown on drawing title and file number)		R-57 1/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		WAYNE TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 496.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.6		16. DATE HOLE		STARTED 2/6/89 COMPLETED 2/6/89	
9. TOTAL DEPTH OF HOLE		457.2		17. ELEVATION TOP OF HOLE		496.8	
				18. TOTAL CORE RECOVERY FOR BORING		37.0 %	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.8			SANDSTONE			PULL #1	
495.9	1		LT. GR., M.H., M-CGR, FLINTY			START 7:45	
	2		BKN PN ~ 0.1 SPACE		1	END 8:04	
	3		FC SURFACE STAIN			TIME 19 MIN	
	4		0.1-11 CLAY, STAIN			DRL 4 MIN	
	5		SLS/CLS			RAW -	
	6		SLS. GR. S, SA, 1.4-1.7	3.7		REC 9.7	
	7		3.7-5.3-7.8-8.9, 9.4-9.8			LOSS 0 UNAC 0	
	8		BKN PN .3 SPACING			DEP 4.7 TIDEP 4.5	
	9		CLS GR. S, SA 1.7-3.7			PULL #2	
	10		5.3-7.8, 8.4-8.9, 9.8-10.1		2	START 8:26	
	11		BKN 2.9-2.7, MICH.			END 8:34	
	12		4.7-4.8, 5.3-5.6, 9.1-9.9			TIME 8 MIN	
	13		9.7-9.8, CL-RBR	7.2		DRL 8 MIN	
	14		5.3-7.8 w locc SLS			RAW -	
	15					REC 5.0	
	16				3	LOSS 0 UNAC 0	
496.7	17					TIDEP 8.9 DEP 9.7	
	18		SLS			PULL #3	
	19		GR, S-M.H, SA	10.3		START 8:41	
	20		BKN PN, CL 11.2-11.8			END 8:56	
	21		S.S. GR, M.H., F-VE FGR		4	TIME 15 MIN	
	22		M. 6-15.2, 15.6-15.9			DRL 15 MIN	
	23		BKN 15.3-15.6-20.8-21.1	14.1		RAW -	
	24					REC 4.9	
	25					LOSS 0 UNAC 0	
	26					TIDEP 14.4 DEP 14.6	
	27					PULL #4	
	28				5	START 9:10	
	29					END 9:19	
	30					TIME 9 MIN	
	31			17.6		DRL 9 MIN	
	32					RAW -	
	33					REC 4.3	
	34				6	LOSS 0 UNAC 0	
	35				(CONT)	TIDEP 18.9 DEP 19.4	
	36					PULL #5	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS Lock + Dam HOLE NO. R-57 1/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-57 1/2		
PROJECT		INSTALLATION		SHEET		
6 Allipolis Lock & Dam		ORHED		OF SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT		6	PULL #5
	21				24.1	START 9:30
	22					END 9:45
	23				7	TIME 15min
						DRL 15min
						RAN - LOSS 0
						REC 5.0 UNACCL
472.9	24					T/DCP 23.9
	25		ICL		29.3	PULL #6
	26		DK. GR. - R. BL, S-MH.		8	START 9:56
	27		OCC SLT, DK. GR. ABOVE			END 10:35
	28		26.5, R-BR Bellow, OCC			TIME 39min
	29		MOTTLED, CL ABOVE 35.2			DRL 35min
	30		SLT below 35.2, BLU			RAN -
	31		29.3-29.8, 33.0-39.1			REC 3.8
	32					LOSS 1.2
	33					UNACCL 1.2
	34				28.5	T/DCP 28.5
	35					DCP 28.4
	36					PULL #7
	37				9	START 10:43
	38					END 11:17
	39					TIME 34min
	40					DRL 34min
	41				32.7	RAN -
	42					REC 5.2
	43					LOSS 0
	44					UNACCL T/DCP 39.0
						DCP 39.9
					10	PULL #8
						START 12:20
						END 12:57
					36.9	TIME 37min
						DRL 37min
					11	RAN -
						REC 5.0
						LOSS 0
457.8	39		BOTTOM HOLE		39.0	UNACCL T/DCP 39.0
	40					DCP 39.4
	41					
	42					
	43					
	44					

ENG FORM  
JUN 67 1836-A

GPO: 1968 OF-328-243

PROJECT  
6 Allipolis Lock & Dam

HOLE NO.  
R-57 1/2



DRILLING LOG		DIVISION	INSTALLATION		Hole No. <u>R-58/1</u>	SHEET 1 OF 2 SHEETS
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>			10. SIZE AND TYPE OF BIT <u>4 1/2"</u>		11. DATUM FOR ELEVATION SHOWN (TYPE & REF.) <u>M.S.L.</u>	
2. LOCATION (Coordinate or Station) <u>MONO R-58 STA 0+80.8</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53-MOBILE</u>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
3. DRILLING AGENCY <u>W. B. JAMES</u>			14. TOTAL NUMBER CORE BOXES <u>9</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
4. HOLE NO. (As shown on drawing title and file number) <u>R-58/1</u>			16. DATE HOLE STARTED <u>2/4/89</u> COMPLETED <u>2/6/89</u>		17. ELEVATION TOP OF HOLE <u>496.5</u>	
5. NAME OF DRILLER <u>DAVE HAEPER</u>			18. TOTAL CORE RECOVERY FOR BORING <u>370</u>		19. SIGNATURE OF INSPECTOR <u>JMD</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.						
7. THICKNESS OF OVERBURDEN <u>0</u> <u>496.5</u>						
8. DEPTH DRILLED INTO ROCK <u>379</u>						
9. TOTAL DEPTH OF HOLE <u>458.6</u>						
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1		SANDSTONE m.-c.g., m.h. STA 6R		Box 1	PULL #1 START 12:25 END 12:45 TIME 20min DRL 20min RAN - REC 4.4 LOSS 0.3 UNACCL 0.3 TDEP 4.7 DEP 5.0
494.5	2		CLS s.-m.h., m.-dk.gr. v.e.s. bkn 0.2-1.6 w/0.3 LC		3.7	
491.8	3		CLS sa, s.-m.h., m.-dk.gr.		Box 2	PULL #2 START 12:51 END 1:06 TIME 15min DRL 15min RAN - REC 4.0 LOSS 0.2 UNACCL 0.2 TDEP 8.9 DEP 9.5
490.0	4		CLS/CLS Intcr bdd, s.-m.h., m.-dk.gr., w/closely spaced shk pts f' s.g.r. cl. cor bce v.e bkn 0.4-0.5 w/0.9 LC 0.6 LC b/w 0.9 f' 12.8		7.9	
483.7	5		CLS sa, s.-m.h., m.g.r.		Box 3	PULL #3 START 1:17 END 1:57 TIME 40min DRL 40min RAN - REC 8.4 LOSS 0.6 UNACCL 0.6
480.6	6		GRADING		18.5	
478.6	7		CLS Chy, s.-m.h., m.-dk.gr. gr. cl cor ptg @ 16.3 GRADING into		Box 4	PULL #4 START 1:57 END 2:27 TIME 30min DRL 30min RAN - REC 18.5 LOSS 18.5
	8		CLS s.-m.h., m.-dk.gr. pts sh, w/closely spaced		Box 5	
	9		(Cont)		Box 6	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-58/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				4965		R-5811	
GALLIPOLI'S LOCK & DAM				INSTALLATION		SHEET 2	
				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		CLS		Box 6	PULL #4	
	21		ADR. PTGS OCC. G.R. CL			START 2:05	
	22		COQ, ICL R.B.R, 21.0-21.7			END 2:55	
	23		CL SE @ 21.5-21.6		22.3	TIME 50min	
473.2						DEL 50min	
	24		ICL		Box 7	RAW -	
	25		MOTTED - R.B.R, BKN,			REC 7.9	
	26		S.M.H. 0.7 LC 6 TUN 233			LOSS 0.7	
	27		26.5, 2.5 LC 6 TUN		26.5	UNACC 0.7	
	28		26.5 f 29.0, 0.4 LC 6 TUN			PULL #5	
	29		29.0 f 32.0		Box 8	START 7:35	
	30					END 8:07	
	31					TIME 52min	
	32					DEL 32min	
	33					RAW -	
	34				Box 9	REC 0	
	35					LOSS 2.5	
	36					UNACC 2.5	
	37					DEPT/DEL 29.0	
	38					PULL #6	
	39					START 8:18	
	40					END 9:08	
	41					TIME 50min	
	42				32.7	DEL 50min	
	43					RAW -	
	44					REC 7.6	
						LOSS 0.4	
						UNACC 0.4	
459.5			BOTTOM HOLE		32.0	TDEP 32.0	
						DEP 37.5	

ENG FORM 1836-A (RR 1110-1-1801)

GPO 1966 OF-628-603

PROJECT GALLIPOLI'S LOCK & DAM HOLE NO. R-5811

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		020		02H-CD			
2. LOCATION (Coordinate or Station) <b>MONO E-58 STA 0+908</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>		11. DATUM FOR ELEVATION SHOWN (FSL or MSL) <b>M.S.L.</b>	
3. DRILLING AGENCY <b>W. G. JACOBS</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-58 1/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVE HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0 497.2</b>				16. DATE HOLE <b>2/6/89</b>		STARTED <b>2/6/89</b>	
8. DEPTH DRILLED INTO ROCK <b>58.9</b>				17. ELEVATION TOP OF HOLE <b>497.2</b>			
9. TOTAL DEPTH OF HOLE <b>458.9</b>				18. TOTAL CORE RECOVERY FOR BORING <b>37.9</b>		19. SIGNATURE OF INSPECTOR <b>JMD</b>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.2	1		SANDSTONE GR-LTGR MH-H COVEF, M-CG, 0.0-1.7 Fg, 1.0-1.8 CL & SCAM, 9.1-1.1, CALCUM 0.0-1.5 BKN 0.0-0.7 1.6-2.3			PULL #1 START 10:16 END 10:35 TIME 19 min DRL 19 min RAN 4.0 LOSS 1.1 REL 2.9 UNACCL 1.1 DEPT/D-PP 4.0	
494.9	2						
	3		SLS/CLS		1		
	4		SLS. GR, S, SA. 4.0-7.9		4.4	PULL #2 START 10:50 END 11:05 TIME 15 min DRL 15 min RAN 4.0 REL 4.0 LOSS 0 T/DEP 8.0 UNACCL 1 DCP 8.9	
	5		B. 7, -8.8, 12.3-13.0, 13.3-		2		
	6		13.8, CLS, GR, S, SA, 2.3				
	7		-4.0, 7.4-8.2, 8.8-12.3				
	8		13.0-13.3, BKN 2.6-4.0, 5.5		8.0		
	9		6.0, 9.2-8.9, SA 4.0-5.2				
	10		6.0-7.2 BKN PW 10.1		3	PULL #3 START 11:20 END 11:55 TIME 35 min DRL 35 min RAN 9.5 REL 8.4 LOSS 1.1 UNACCL 1.1	
	11		SPACING & CL COATING		14.7		
	12		9.2-10.5, 11.6-13.8				
	13				4		
483.9	14						
	15		SLS GR, S-MH, SA		15.4		
	16		SS. SPAN, GR, MH, VEF-FS				
	17		14.7-15.7 SH W/BKN PW		5		
	18		0.1 SPACE BLOW PA, CLS,			T/DEP 17.5 DEP 17.5	
	19		GR, S, SA. 20.7-30.1			PULL #4 START 12:35 END 1:16 (CONT)	
	20		BKN 21.9-22.2		19.8		

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **R-58 1/2**

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		PROJECT		HOLE NO.	
PROJECT				INSTALLATION		HOLE NO.		SHEET	
GALLIPOLIS Lock + DAM				ORH-CD		R-5812		2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)			
a	b	c	d	e	f	g			
	20								
	21		SLT			PULL #4			
	22					TIME 91min			
	23					6 DPL 91min			
4737						PAN 9.0			
						REC 8.6			
	24		JCL			23.7 LOSS 1.9			
	25		dk gr. - R.B.R. S, clayins			UNACC 1.4			
	26		TO SL, OCC SLX		7				
	27		dk gr. ABOVE 27.5 AND			TIDCP 26.5			
	28		R-BR Below 27.5			DCP 27.9			
	29		BKN 34.1-34.5, 36.4-36.8			PULL #5			
	30				8	START 1:32			
	31					END 1:55			
	32					TIME 23min			
	33					DPL 23min			
	34					PAN 5.5			
	35					REC 4.8			
	36					LOSS 1.1			
	37					UNACC 1.1			
	38				32.9	TIDCP 32.4			
	39					DCP 32.9			
	40					PULL #6			
	41				9	START 2:11			
	42					END 2:35			
	43					TIME 29min			
	44					DPL 29min			
	45					PAN 5.5			
	46				36.2	REC 5.5			
	47					LOSS 0			
459.3	48		BOTTOM HOLE		10	UNACC 0			
	49				37.9	TIDCP 37.9			
	50					DCP 38.9			
	51								
	52								
	53								
	54								

ENG FORM 1836-A  
JUN 67

GPO 1968 OF-329-243

PROJECT  
GALLIPOLIS Lock + DAM  
HOLE NO.  
R-5812

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		ORD		ORH-CD			
2. LOCATION (Coordinates or Station) <b>MONO 59 STA 0+308</b>				10. SIZE AND TYPE OF BIT <b>4X5H</b>			
3. DRILLING AGENCY <b>W &amp; J ABUES</b>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-59/1</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOB. LE</b>			
5. NAME OF DRILLER <b>DENNIS THOMPSON</b>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>10</b>		UNDISTURBED <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>496.1</b>				15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>34.7</b>				16. DATE HOLE STARTED <b>2/10/89</b> COMPLETED <b>2/10/89</b>			
9. TOTAL DEPTH OF HOLE <b>461.5</b>				17. ELEVATION TOP OF HOLE <b>496.1</b>			
				18. TOTAL CORE RECOVERY FOR BORING <b>36.8</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.1	1		SLS/CLS			PULL #1	
	2		SLS, GR, S-MH, SH 0.0-0.9 2.9-2.8, CLS, GR, S-SH 0.9-2.9, 2.8-3.1 BKN 0.0-0.6 BKN PN. 2 SPACING		1	START 6:00 END 6:10 TIME 10 MIN DRL 10 MIN RAN 4.6	
493.0	3		0.6-3.1		3.7	REC 4.6 LOSS 0 UNACC 0 T/D 4.5 D/C 4.9	
491.3	4		SANDSTONE GR, M.H., F-VEF. SLT BKN 4.3-4.4		2	PULL #2	
	5		SLS			START 6:25	
	6		GR, S, OCC CLAYEY I			END 6:35	
	7		Shale, CL 5.9-6.8		2.9	TIME 10 MIN DRL 10 MIN RAN 5.9	
	8		7.7-8.1, 9.0-10.6, 11.3-11.4			REC 5.2	
	9		12.6-12.9, BKN 5.0-5.5		3	LOSS 0.21 UNACC 0.2 T/D 10.0 D/C 10.0	
	10		CLS 8.6-8.6, 9.9-9.9, S				
	11		Sh. BKN 11.8-12.1		10.9	PULL #3	
	12					START 6:45	
	13				4	END 7:00	
	14					TIME 15 MIN DRL 15 MIN RAN 4.7	
491.2	15				19.5	REC 4.7 LOSS 0 UNACC 0 T/D 19.7 D/C 19.7	
480.5	16		SANDSTONE GR, M.H., F-VEF. SLT SCAM 19.9-19.1		5	PULL #4	
	17		SLS			START 7:15	
	18		GR, S-M.H., SH BKN PN			END 7:30	
	19		15 ABOVE 19.0 + 13 BELOW		18.1	TIME 15 MIN DRL 15 MIN RAN 4.1	
	20		CL 12-LOW 19.3		6 (CONT)	REC 4.1 LOSS 0 UNACC 0 T/D 18.1 D/C 18.1	
			(CONT)			(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **R-59/1**

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
GALLIPOLIS Lock & Dam				4961		R-59/1	
				BPH-CD		2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SLS				
	21				6	DEPT 20.0	
479.1	22				21.0	PULL #5 START 8:45 END 9:00 TIME 15min DRL 15min RAN 5.5 REC 5.3 LOSS .2 UNACCL.2	
	23		CLS GR. S. SH, BKN 22.0 22.3, 23.1-23.7				
471.5	24				7	DEPT 24.5 PULL #6 START 9:15 END 9:40 TIME 25min DRL 25min RAN 4.9 REC 4.5 LOSS .9 UNACCL.9	
	25		ICL				
	26		R. BR, S-M.H. OCCAS		25.5		
	27		P.N. W/SLK, OCCAS		8		
	28		W/GP-GNGR, SH				
	29		R-GRABOVE 26.5		29.4	T/D 29.9	
	30		BKN 32.6-33.2; 33.9-			DEPT 29.9	
	31		34.4			PULL #7 START 9:55 END 10:10 TIME 15min	
	32				9	DRL 15min RAN 5.1 REC 5.1 LOSS 0 UNACCL 0	
	33				33.1	T/D 33.5 DEPT 33.7	
	34						
	35				10	RAN 2.3 REC 2.3 LOSS 0 UNACCL 0	
459.3	36				36.8	T/D 36.8	
	37		BOTTOM HOLE				
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A  
JUN 67

SPD: 1968 OF-320-243

PROJECT GALLIPOLIS Lock & Dam  
HOLE NO. R-59/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>		<b>ORD</b>		<b>ORH-CD</b>			
2. LOCATION (Coordinate or Station) <b>MOND R-59 STA 0+164</b>				10. SIZE AND TYPE OF BIT <b>4X5 1/2</b>		11. DAYTIME FOR ELEVATION SHOWN (700 or 800) <b>M.S.L.</b>	
3. DRILLING AGENCY <b>W. G. JACOBS</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-59/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>WAYNE TICE</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <b>2/28/89</b>		STARTED <b>2/28/89</b>	
7. THICKNESS OF OVERBURDEN <b>Ø 495.6</b>				17. ELEVATION TOP OF HOLE <b>495.6</b>		COMPLETED <b>2/28/89</b>	
8. DEPTH DRILLED INTO ROCK <b>37.1</b>				18. TOTAL CORE RECOVERY FOR BORING <b>35.6</b>			
9. TOTAL DEPTH OF HOLE <b>458.5</b>				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
495.6	1		SLS 1.25			PULL #1	
	2		SLS, GR, S-M.H. SH		1	START 7:10	
	3		CLAYCY, CLS GR, S			END 7:25	
	4		SH, SLT			TIME 15min	
	5		SANDSTONE, GR,			DRL 15min	
	6		M.H. F-VEFF., SLT			RAN 4.7	
	7		2.1-2.3, 2.6-2.9		3.8	REC 4.7	
	8		SLS 0.0-1.7, 3.9-2.9			LOSS Ø	
	9		9.8-12.5, 12.7-18.8, 19.9			UNACC Ø	
	10		20.4, CLS 1.7-2.1			T/DEP 9.7	
	11		7.9-9.8, 12.5-12.9			DEP 3.0	
	12		18.8-19.9, 20.4-20.9,		2	PULL #2	
	13		BLN 0.0-0.8, 2.9-8.3			START 7:35	
	14		9.2-2.6, SG SLS 10.7-			END 7:45	
	15		10.9, 13.3-13.7, 14.7-14.8		3.9	TIME 10min	
	16		HIGH ANG FPAK 11.9-			DRL 10min	
	17		11.7, 19.4-19.7, SLS			RAN 5.1	
	18		LESS CLAYCY BELOW			REC 5.1	
	19		12.9		3	LOSS Ø	
	20		(CONT)			UNACC Ø	
						T/DEP 9.8	
					10.6	PULL #3	
						START 7:50	
						END 8:05	
						TIME 15min	
					4	DRL 15min	
						RAN 4.8	
						REC 4.8	
					14.4	LOSS Ø	
						UNACC Ø	
						T/DEP 19.1	
						PULL #4	
					5	START 8:12	
						END 8:20	
						TIME 8min	
						DRL 8min	
						RAN 4.8	
					18.0	REC 4.8	
					6	LOSS Ø	
					(CONT)	UNACC Ø	
						T/DEP + DEP 19.9	
						PULL #5	

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PROJECT  
GALLIPOLIS LOCK + DAM  
HOLE NO.  
R-59/2



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-5912		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM		GPH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20					
	21		SLSLLS		6	PULL #5 START 8:28 END 8:40
473.9					21.7	Time 12 min DRL 12 min RAN 5.4
	22		ICL			REC 5.1 UNACCL #
	23		R. BR, S. - MH SH,		7	LOSS #
	24		NUM SLL, OCC			DCP 29.9
	25		MOTTLED W LG. - SN GR.		25.0	TIDCP 29.5 PULL #6
	26		BKN, HKGR. ABOVE 29.0		8	START 8:50 END 9:05
	27		BKN 23.4 - 26.2, 27.6 -			Time 15 min DRL 15 min
	28		29.9			RAN 5.2
	29				28.9	REC 5.2
	30					LOSS #
	31					UNACCL #
	32					TIDCP + DCP 29.7
	33				9	PULL #7
	34					START 9:15
	35					END 9:35
	36				31.9	Time 20 min DRL 20 min
	37					RAN 4.7
	38				10	REC 4.4
	39					LOSS 0.3
	40					UNACCL 0.3
	41					DCP 39.6
460.0			Bottom Hole			TIDCP 39.9
	42				35.6	PULL #8
	43					START 9:45
	44					END 10:00
	45					Time 15 min
	46					DRL 15 min
	47					RAN 1.2
	48					REC 1.2
	49					LOSS #
	50					UNACCL #

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-242

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. R-5912



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinate or Station) MO NO R-60 STA 0+26A				11. DATUM FOR ELEVATION SHOWN (FEET - MSL) M.S.L			
3. DRILLING AGENCY W. B. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL R-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-60/11				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 10			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.5				16. DATE HOLE STARTED 2/20/89 COMPLETED 2/20/89			
8. DEPTH DRILLED INTO ROCK 39.9				17. ELEVATION TOP OF HOLE 496.5			
9. TOTAL DEPTH OF HOLE 456.6				18. TOTAL CORE RECOVERY FOR BORING 36.7			
				19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.5			SLS/CLS/LSS			PULL #1	
	1		SLS: GR, S. - MH, BKN			START 8:19	
	2		PN ~.5 SPACING, OCC		1	END 8:40	
	3		interbedded w/CLS & SS			TIME 21min	
	4		Sa 0.5-0.7, 3.3-3.9, 13.1-		3.5	DRL 21min	
	5		13.9, 15.7-16.1, CL: 6.0-			RAW 4.9	
	6		11.1, 17.9-19.8, X0.9-		2	REC 4.9	
	7		BKN 0-0.7, 8.4-9.6,			LOSS 0	
	8		12.3-12.6, 14.5-14.6,			UNAC 0	
	9		19.8-20.3, 23.6-24.3			DCL+T/DCL 4.9	
	10		CLS, SH, GR, S. 2.5-2.9		7.1	PULL #2	
	11		12.0-12.6, 19.8-20.9			START 8:51	
	12		22.1-24.3, HIGH ANG		3	END 8:59	
	13		FRAG 3.5-3.8, S.S.			TIME 8min	
	14		GR, MH, F-V, F.G.			DRL 8min	
	15		3.9-4.8, 13.4-15.1, BKN			RAW 5.0	
	16		PN ~.2 SPACING 16.8-19.8			REC 5.0	
	17					LOSS 0 UNAC 0	
	18					DCL+T/DCL 9.9	
	19				10.8	PULL #3	
	20					START 9:08	
						END 9:20	
					4	TIME 12min	
						DRL 12min	
						RAW 5.1	
						REC 5.1	
						LOSS 0	
						UNAC 0	
					14.5	DCL 19.9	
						T/DCL 9.5	
						PULL #4	
					5	START 9:33	
						END 9:45	
						TIME 12min	
						DRL 12min	
						RAW 9.7	
						REC 9.6	
					18.3	LOSS 0.1	
					6	UNAC 8.1	
					(CONT)	T/DCL 19.2	
						PULL #5	
						(CONT)	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-60/11

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		OEH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS/CLS/LS			PULL#5
	21				6	START 10:00
	22				21.8	END 10:16
	23					TIME 16 min
	24				7	DPL 16 min
472.2	29					RAN 5.1
						REC 5.1 UNAC 0
						LOSS 0
						DCD 29.2
						TIDCD 29.5
	25		ICL		25.2	PULL#6
	26		R.B.P., S.-M.H., NUM			START 10:29
	27		SLK, CL 24.3-30.9		8	END 11:08
	28		SA + SLT Below 30.9			TIME 39 min
	29		dkgr. ABOVE 26.3, OCC			DPL 39 min
	30					RAN 5.0
	31				26.7	REC 9.9
	32					LOSS 0.1
	33		MOTTLED w/GR THROUGHOUT			UNAC 0.1
	34					DCD 29.2
	35		SCUMPLY RPN 25.0-25.2		9	PULL#7
	36					START 12:10
	37		26.1-26.3, 26.7-27.0			END 12:48
	38				36.1	TIME 38 min
	39		27.8-28.1, 28.7-29.3,			DPL 38 min
	40					RAN 5.0
	41		30.7-30.9			REC 3.7
	42				10	LOSS 1.3
	43					UNAC 1.3
	44					TIDCD 34.3
	45					DCD 34.9
459.8	36		BOTH ... HOLE		36.7	PULL#8
	37					START 13:14
	38					END 13:44
	39					TIME 30 min
	40					DPL 30 min
	41					RAN 5.0
	42					REC 5.0
	43					LOSS 0
	44					UNAC 0
	45					TIDCD 39.3
	46					DCD 39.9

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. R-6011

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>		ORD		ORHED			
2. LOCATION (Coordinates or Station) <b>MOND R-60 STA 0+60A</b>				10. SIZE AND TYPE OF BIT <b>4 X 5 K</b>		11. DATUM FOR ELEVATION SHOWN (FMS or MSL) <b>M.S.L.</b>	
3. DRILLING AGENCY <b>W. G. JACQUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-60/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVE HARDER</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>496.4</b>				16. DATE HOLE <b>2/20/89</b>		STARTED <b>2/22/89</b>	
8. DEPTH DRILLED INTO ROCK <b>36.4</b>				17. ELEVATION TOP OF HOLE <b>496.4</b>			
9. TOTAL DEPTH OF HOLE <b>460.0</b>				18. TOTAL CORE RECOVERY FOR BORING <b>36.4</b>			
				19. SIGNATURE OF INSPECTOR <b>LMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.4			SLS/CLS/SS			PULL #1	
	1		SLS, 9R. S-M.H. SA, occ			START 2:00	
	2		INTERBED W/CLS/SS			END 2:19	
	3		BLN PN - .25 SPACING 0.0			TIME 19 min	
	4		1.9, 6.8-12.6, 16.3, CLS			DRL 19 min	
	5		9R. S, SA. 1A - 3.5, 6.8-		3.5	RAN 3.4	
	6		7.0, 7.5-7.7, 8.3-8.4,			REC 3.4 TIDEP 3.5	
	7		9.0-10.0, 11.2-11.8, 12.0-			LOSS 0	
	8		12.2, 12.9-12.6, 14.0-15.0			UNAC 0	
	9		BLN 2.4-2.6, 2.9-3.5, 3.5-		2	D=2.50	
	10		3.6, 8.2-8.3 SQ. 0.2-4.4			PULL #2	
	11		12.6-13.0, 14.2-14.6, CL,			START 2:25	
	12		5.9-5.9 BELOW 20.4			END 2:40	
	13		BLN ~.4 SPACING 3.5-6.0		7.3	TIME 15 min	
	14		12.6-16.3, CL COOTED			DRL 15 min	
	15		PN 7.7, 8.1, SS. 9R. m.-			RAN 4.8	
	16		H. F-VEFF. 13.0-14.2			REC 4.8	
	17					LOSS 0	
	18					UNAC 0	
	19				3	D=2.30 TIDEP 3.3	
	20					PULL #3	
						START 2:51	
						END 3:08	
						TIME 17 min	
					11.0	DRL 17 min	
						RAN 4.4	
						REC 4.4	
					4	LOSS 0	
						UNAC 0	
						D=2.33 TIDEP 3.2	
						PULL #4	
						START 7:22	
					18.7	END 7:40	
						TIME 18 min	
						DRL 18 min	
					5	RAN 4.3	
						REC 4.3	
						LOSS 0	
						UNAC 0	
					18.3	D=2.33	
						PULL #5	
					6	START 7:48	
					(CONT)	END 8:09	
						TIME 21 min	
						(CONT)	

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PROJECT  
GALLIPOLIS LOCK + DAM  
HOLE NO.  
R-60/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.4		Hole No. R-6012	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION OEH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
479.2	20		SLIC 155		6	PULL#5 DRL 21min RAN 3.8 REC 3.8 LOSS # UNAC 0 TIDEP 21.6 DCP 22.3
	21					
	22					
	23		ICL			PULL#6 START 8:19 END 8:29 TIME 30min DRL 30min RAN 4.0 REC 3.5 LOSS 0.1 UNAC 0.1 TIDEP 25.5 DCP 25.8
	24		R. BR, S. M. H. NUM. ANY		7	
	25		SLK, OCC MOTTLED W/			
	26		GR. - GN. GR, CL / SA			
	27		OKGR. ABOVE 22.3			PULL#7 START 8:39 END 8:50 TIME 11min DRL 11min RAN 9.8 REC 9.8 LOSS # UNAC # TIDEP 30.5 DCP 30.5
	28		SAT 29.5-32.3, SPURSELY		8	
	29		BKN 32.3-32.6, 34.2-34.6			
	30		MECH.			
	31				9	PULL#8 START 8:58 END 9:29 TIME 26min DRL 26min RAN 9.8 REC 9.8 LOSS # UNAC # TIDEP 33.8 DCP 34.0
	32					
	33					
	34					
	35				10	PULL#9 START 9:36 END 9:47 TIME 11min DRL 11min RAN 1.6 REC 1.6 LOSS # UNAC # TIDEP 36.9 DCP 36.9
460.0	36		BOTTOM HOLE			
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-245

PROJECT  
GALLIPOLIS LOCK & DAM  
HOLE NO.  
R-6012

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK+DAM				10. SIZE AND TYPE OF BIT 4x5 1/2			
2. LOCATION (Coordinates or Station) MONO R-61 STA 0+70A				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W. B. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B. - 57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-6111				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 10			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 496.2				16. DATE HOLE STARTED 2/10/89 COMPLETED 2/22/89			
8. DEPTH DRILLED INTO ROCK 38.5				17. ELEVATION TOP OF HOLE 496.2			
9. TOTAL DEPTH OF HOLE 457.7				18. TOTAL CORE RECOVERY FOR BORING 38.3			
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.2	1		SLS GR, S-M.H., SA, W/CLL CLS BEN PN ~ 0.95 spacing, BEN 0.0-0.3, CLS GR, S, SA, 2.1-2.8, 3.3-3.5, SE 2.8-3.3			PULL #1 START 19.00 END 19.22 TIME 8 min DRL 8 min RAW 4.7 REC 4.7	
491.7	2				3.6	LOSS 0 UNACCL 0 DEPT+TID=4.7	
491.5	4		SANDSTONE GR. M.H. Fg. ANG. PN. 45° 4.1-4.4				
	5		SLS GR, S-M.H., SA, SA 4.7-5.1 CL 5.1-7.0		2	PULL #2 START 19.28 END 19.37 TIME 9 min DRL 9 min RAW 5.0 REC 5.0 LOSS 0 UNACCL 0 DEPT+TID=9.7	
489.2	7				7.3		
	8		CLS GR, S, SA, SLX 8.2-8.4		3	PULL #3 START 7.40 END 7.54 TIME 14 min DRL 14 min RAW 4.5 REC 4.5 LOSS 0 UNACCL 0 DEPT+TID=19.7	
	9		SCARPLY BEN 9.0-9.5, 9.7-9.8, 10.0-10.2, 10.4-10.6				
485.2	11				10.9		
	12		SLS GR, S-M.H., SA, CL, 11.0-12.9, 16.6-17.3, 18.4-18.8		4	PULL #4 START 8.10 END 8.20 TIME 10 min DRL 10 min RAW 5.0 REC 5.0 LOSS 0 UNACCL 0 DEPT+TID=19.6	
	13						
	14		ANG, PN. 45° W/SLX 12.2-12.9				
	15		SA 12.9-14.1, 16.0-16.2		14.6		
	16		SS, GR M.H. Fg. 14.9-15.3				
	17		CLS GR, S, SA 17.3-19.6		5		
	18				18.2		
	19				6		
	20		(CONT)		(CONT)		

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PROJECT GALLIPOLIS LOCK+DAM HOLE NO. R-6111



DRILLING LOG		DIVISION		INSTALLATION		SHEET /	
		OPD		ORHED		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinates or Station) MONO R-61 STA 1415A				11. DATUM FOR ELEVATION SHOWN (FBN or MSL) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-61/2				13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 2/22/89 COMPLETED 2/22/89	
7. THICKNESS OF OVERBURDEN 496.3				17. ELEVATION TOP OF HOLE 496.3		18. TOTAL CORE RECOVERY FOR BORING 36.7	
8. DEPTH DRILLED INTO ROCK 36.7				19. SIGNATURE OF INSPECTOR JMD			
9. TOTAL DEPTH OF HOLE 459.6							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.3			SLT/cl/s			PULL #1
	1		SLs, 9R. S-M.H., Sh.			START 10:04
	2		occ interbed w/cl/s		1	END 10:19
	3		sa. SLs 0.2-0.6, 1.9-3.0, S3			TIME 13min
	4		-6.3, 13.0-13.3, 13.9-14.8		3.7	DRL 13min
	5		BKN 0.0-0.2, 10.0-10.5,			RAN 4.7
	6		21.3-21.5, CLS 9R. S., Sh.,			REC 4.7
	7		1.6-1.9, 6.3-6.5, 8.5-10.1		2	LOSS 0
	8		SANDSTONE, 9R. M.H., F-			UNACCLD T/D=9.0
	9		UE.F.G., SLT. 3.0-5.3, 13.3		3	DCP 5.0
	10		13.9 clayey SLs below			
	11		20.2		2	PULL #2
	12					START 10:25
	13				7.2	END 10:45
	14					TIME 30min
	15					DRL 20min
	16				3	RAN 9.9
	17					REC 9.9
	18				3	LOSS 0
	19					UNACCLD T/D=9.7
	20					DCP 10.0
					10.9	PULL #3
						START 10:57
					4	END 11:22
						TIME 25min
						DRL 25min
					14.3	RAN 9.1
						REC 9.0
						LOSS 1
						UNACCLD T/D=21.8
						DCP 19.0
					5	PULL #4
						START 12:10
						END 12:25
						TIME 15min
					17.8	DRL 15min
						RAN 3.8
					6	REC 3.8
					(CONT)	UNACCLD
						LOSS 0
						DCP 18.0
						PULL #5
						START 12:34
						END 12:49
						TIME 15min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-61/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-6112		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK+DAM		OPH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLT/CLT/LS		6	PULL#5 DEL 15 min RAN 3.7 REC 3.7
979.9	21				26.3	LOSS 0 TIDCP 21.5 UNACC 0
	22		ICK			DCP 22.6
	23		R-BR, S-M.H., SA, NUM		7	PULL#6 START 1:00 END 1:14 LOSS 13 TIME 19 min UNACC 13 DEL 19 min RAN 9.2 REC 3.7
	24		SLTs, OCC MOTTLED W/		25.3	TIDCP 25.7 DCP 25.8
	25		GR-GN.GR., BKN			PULL#7
	26		DR GR., ABOVE 27.5		8	START 1:23 END 1:43 TIME 20 min DEL 20 min RAN 9.1 REC 9.1
	27		SCUMPLY BKN 25.0-25.7		29.8	LOSS 0 TIDCP 29.8 UNACC 0
	28					DCP 30.0
	29				9	PULL#8 START 1:56 END 2:17 TIME 21 min DEL 21 min RAN 3.7 REC 2.5 UNACC 1.2 LOSS 1.2 DCP 34.8
	30				33.5	TIDCP 33.5
	31					PULL#9
	32				36.7	START 2:29 END 2:40 DCP 36.7 TIME 11 min DEL 11 min RAN 3.2 REC 3.2 LOSS 0 UNACC 0
959.6	33		BOTTOM HOLE			
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT GALLIPOLIS LOCK+DAM  
HOLE NO. R-6112



DRILLING LOG		DIVISION		INSTALLATION		SHEET /	
PROJECT		ORD		GRH-CD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinates or Station) MONO R-62 STA 1425A				11. DAY FOR ELEVATION SHOWN (YES or NO) M.S.L.			
3. DRILLING AGENCY W.G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-62/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 9			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.2				16. DATE HOLE 2/28/89		STARTED 2/28/89	
8. DEPTH DRILLED INTO ROCK 33.8				17. ELEVATION TOP OF HOLE 496.2			
9. TOTAL DEPTH OF HOLE 462.4				18. TOTAL CORE RECOVERY FOR BORING 33.2			
				19. SIGNATURE OF INSPECTOR YMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.2			SLS/CLS/KS			PULL #1	
	1		GR.S.-m.H SH., occ			START 10:20	
	2		Inte p bdd w/cls lss		1	END 10:28	
	3		BKN 0.0-0.8, 2.3-8.1			TIME 8 min	
	4		9.9-10.0, 52.1-52.1			DRL 8 min	
	5		3.9, 13.2-14.5, 16.2-16.5		3.7	RAW 5.0	
	6		CLS. GR, S, SH, 19.2-21.6			REC 5.0	
	7		10.0, 15.1-15.6, 18.9-18.8		2	LOSS 0	
	8		20.0-20.6, 35.9, m.H.			UNAC 0	
	9		F-UFFG., 9 PAM CONTACT		3	DEPS 2 T/D=9.0	
	10		W/upper SLS 3.9-5.2			D=10.2	
	11		ANG. DN ~ 95° 4.1-4.9			PULL #2	
	12		HIGH ANG FRK 11.7-13.2		11.9	START 10:35	
	13		SD. GR., m.H. F-UFFG.			END 10:45	
	14		14.5-15.1 clayey SLS		4	TIME 10 min	
	15		20.6-22.0			DRL 10 min	
	16					RAW 4.9	
	17					REC 4.9	
	18				5	LOSS 0	
	19					UNAC 0 T/D=9.9	
	20					D=10.2	
			(CONT)			PULL #3	
						START 10:52	
					11.9	END 11:08	
						TIME 16 min	
						DRL 16 min	
					4	RAW 3.8	
						REC 3.3 UNAC 1.5	
						LOSS 1.5 D=10.2	
						PULL #4	
					15.9	START 12:00	
						END 12:15	
						TIME 15 min	
					5	DRL 15 min	
						RAW 3.7	
						REC 3.5 UNAC 0.2	
						LOSS 0.2 D=10.2	
						PULL #5	
					17.9	START 12:20	
						END 12:35	
					6	TIME 15 min	
					CONT	DRL 15 min	
ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)				PROJECT GALLIPOLIS LOCK + DAM		HOLE NO. R-62/1	

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6 Allipolis Lock + Dam			ORH-CD		OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLTSLTSLT			PULL #5 RAN 9.7 REC 9.7 LOSS 0 UNAC 0 DCP 21.8 TIDCP 21.6
173.3	23		ICK		23.1	PULL #6 START 12:49 END 12:56 TIME 12 min DAL 12 min RAN 9.9 LOSS 0.1 REC 9.3 UNAC 0.1 DOP + TIDCP 26.0
	24		ICK - R. BR, S-M.H.		7	
	25		SH, NUM, SLT, ICK			
	26		ABOVE 28.0, S-M.H., BRN		26.6	PULL #7 START 1:04 END 1:18 TIME 19 min DAL 19 min RAN 9.8 REC 9.8 LOSS 0 UNAC 0 DCP 31.0 TIDCP 30.8
	27		27.7-28.2, 29.4-30.6		8	
	28					
	29					
	30				30.9	
	31					
	32				9	PULL #8 START 1:33 END 1:43 TIME 10 min DAL 10 min RAN 2.3 REC 2.5 LOSS 0 UNAC 0 DCP 33.8 TIDCP 33.2
163.0	33		BOTTOM HOLE		33.2	
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-243

PROJECT 6 Allipolis Lock + Dam  
HOLE NO. R-6211

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
PROJECT		ORD		ORH-LD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4Y5H			
2. LOCATION (Coordinates or Station) MONA R-62 STA 1+63A				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.			
3. DRILLING AGENCY W. G. JABUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOB.IE			
4. HOLE NO. (As shown on drawing title and file number) R-62/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER WAYNETICE				14. TOTAL NUMBER CORE BOXES 9			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 495.7				16. DATE HOLE 2/20/89		STARTED 2/20/89	
8. DEPTH DRILLED INTO ROCK 33.3				17. ELEVATION TOP OF HOLE 495.7			
9. TOTAL DEPTH OF HOLE 462.4				18. TOTAL CORE RECOVERY FOR BORING 31.9			
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
495.7			SLS/CLS/SS			PULL #1	
	1		SLS, GR, S-M.H., SA, OCC		1	START 10:45	
	2		Inter bed w/CLS/SS			END 10:58	
	3		CLAYey SLS 0.6-1.7, 2.5-27			TIME 13min	
	4		5.8-8.1, 12.2-12.9, 20.9		3.5	DRL 13min	
	5		22.9, SA SLS 5.3-5.8			RAN 4.6	
	6		12.9-19.7, BKN 9.6-9.8			REC 4.6	
	7		10.9-10.7, 19.7-20.1			LOSS 0	
	8		CLS, GR S, SA/SLT, 4.6-4.9			UNACC 0	
	9		8.1-9.3 19.7-20.9, SANDSTONE		2	DOP 9.6	
	10		GR, M.H. F-V.E.G., SA			PULL #2	
	11		WUM SLT, BKN, OCC			START 11:08	
	12		Notched w/GR-GN GR			END 11:20	
	13		AKGR ABOUT 26.0		21	TIME 12min	
	14		SCURPLY BKN 22.5-24.9			DRL 12min	
	15					RAN 4.9	
	16				3	REC 4.9	
	17					LOSS 0	
	18					UNACC 0	
	19				10.4	TIDOP 9.0	
	20					DOP 9.6	
						PULL #3	
						START 12:00	
						END 12:20	
						TIME 20min	
					4	DRL 20min	
						RAN 5.0	
						REC 5.0	
						LOSS 0	
					19.0	UNACC 0	
						DOP 0.9	
						PULL #4	
						START 12:30	
					5	END 12:50	
						TIME 20min	
						DRL 20min	
						RAN 4.7	
					19.7	REC 4.5	
						LOSS 0.2	
					6	UNACC 0.2	
					(CONT)	DOP 18.7	
						PULL #5	
						START 1:40	
						END 1:15	
						TIME 15min	
						DRL 15min	
						RAN 2.6	
						REC 2.6	
						LOSS 0	
						UNACC 0	
						DOP 19.8	

ENG FORM 1836  
MAR 71  
PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK + DAM  
HOLE NO.  
R-62/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS Lock + Dam			495.7		R-62/R	
			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS/CLS/SS			PULL #6
	21				6	START 1:25
						END 1:38
	22				24.9	TIME 13 min
473.3						DRL 13 min
	23		ICL			RAW 5.2
			R-BR, S-MH, SA		7	REC 5.2
	24					LOSS 0
			NUM, SLK, BKN, OCC			UNACCD
	25				24.9	DCP 24.8
			MOTTLED W/SP-9N+9E			TIDCP 25.0
	26					PULL #7
			DK GRAY ABOVE 26.0		8	START 1:50
	27					END 2:10
			SEVERELY BKN 22.5-24.9			TIME 20 min
	28					DRL 20 min
						RAW 4.6
	29				28.7	REC 4.3
						LOSS 0.3
	30					GNAC 0.3
						TIDCP 29.5
	31					DCP 29.8
463.8			BOTTOM HOLE		9	PULL #8
	32					START 2:20
						END 2:35
	33				31.9	TIME 15 min
						DRL 15 min
	34					RAW 2.9
						REC 2.9
	35					LOSS 0
						UNACCD
	36					DCP 33.3
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67

GPO: 1969 OF-329-243

PROJECT GALLIPOLIS Lock + Dam HOLE NO. R-62/R

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
PROJECT		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK+DAM</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinate or Station) <b>MONO R-63 STA 1473A</b>				11. DATUM FOR ELEVATION SHOWN (FEET - MSL) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W.G. JAGUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-63/1</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER <b>DAVID HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <b>2/28/87</b>		16. DATE HOLE <b>2/28/87</b>	
7. THICKNESS OF OVERBURDEN <b>0 496.2</b>				17. ELEVATION TOP OF HOLE <b>496.2</b>		18. TOTAL CORE RECOVERY FOR BORING <b>32.2</b>	
8. DEPTH DRILLED INTO ROCK <b>33.9</b>				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
9. TOTAL DEPTH OF HOLE <b>462.8</b>							

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
496.2			SLS/CLS/SS.			PULL #1
	1		SLS, S-M.H., SA, OCC			START 2:00
	2		INTERBEDD W/LS/SS		1	END 2:15
	3		BKN PN -0.9 SPACING			TIME 15min
	4		BKN 0.0-0.5, CLS		3.7	DRL 15min
	5		JR, S, SH, 0.7-1.9, 8.9			RAW 5.0
	6		-9.3, 9.5, 11.2, 21.3-21.7		2	REC 4.5
	7		22.3-22.5, SA/SLB 2.6-			LOSS 0.5
	8		4.0, 14.8-15.7, SS, 9R			UNACQ 0.5
	9		M.H. A-VEFG, SLT 9.0		3	DCDPT/DCPSO
	10		-6.1 BKN PWS-0.25, JKE			PULL #2
	11		W/occ CL coating pws		10.9	START 2:20
	12		11.2-13.9, CLNYCY SLS			END 2:33
	13		below 20.5		4	TIME 13min
	14					DRL 13min
	15				5	RAW 3.5
	16					REC 3.5
	17				6	LOSS 0
	18					UNACQ 0
	19					DCDPT/DCPSO
	20					PULL #3
						START 2:40
						END 2:50
						TIME 10min
						DRL 10min
						RAW 4.6
						REC 4.5
						LOSS 0.1
						UNACQ 0.1
						DCDPT/DCPSO
						PULL #4
						START 2:55
						END 3:05
						TIME 10min
						DRL 10min
						RAW 2.6
						REC 2.6
						LOSS 0
						UNACQ 0
						DCDPT/DCPSO
						PULL #5
						START 7:25
						END 7:43
						TIME 18min
						DRL 18min
						RAW 1.8
						REC 1.8
						LOSS 0
						UNACQ 0
						DCDPT/DCPSO

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK+DAM** HOLE NO. **R-63/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-631		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock+Dam		OPH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT/CL/SS			
	21					T/DCP 20.5 DCP 20.7
	22				7	PULL#6 START 7:50 END 8:05 TIME 15min DRL 15min RAN 3.8 REC 3.1 LOSS 0.4 UNAC 0.4 T/DCP 29.3 DCP 25.5
973.2	23				23.0	
	24		ICL			
	25		R-BR, S-M.H., SH,		8	PULL#7 START 8:12 END 8:25 TIME 13min DRL 13min RAN 4.2 REC 4.2 LOSS 0 UNAC 0 T/DCP 28.5 DCP 25.3
	26		NUM SLT BKN, OCC			
	27		MOTTLED W/GR-GWGR		26.0	
	28		CLAYEY, DK GR ABOVE 26.5			
	29		Scarcely BKN 25.9-26.3		9	
	30		32.0-32.2			
	31				30.5	
964.0	32		BOTTOM HOLE		10	PULL#8 START 8:35 END 8:50 TIME 15min DRL 15min RAN 4.7 REC 3.8 LOSS 1.0 UNAC 1.0 T/DCP 33.2 DCP 33.4
	33				33.2	
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1969 O7-325-243

PROJECT GALLIPOLIS Lock+Dam  
HOLE NO. R-631

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
PROJECT		ORD		ORH-CD		K-6312	
LOCATION (Coordinate or Station)		MONO E-63 STA 2+03A		SIZE AND TYPE OF BIT		4X5 1/2	
DRILLING AGENCY		W.G. JACOBS		DATION FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
HOLE NO. (As shown on drawing title and file number)		R-6312		MANUFACTURER'S DESIGNATION OF DRILL		B-53-MOBILE	
NAME OF DRILLER		DAVE HARPER		TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
DIRECTION OF HOLE		VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> DEG. FROM VERT.		TOTAL NUMBER CORE BOXES		9	
THICKNESS OF OVERBURDEN		496.2		ELEVATION GROUND WATER		N/A	
DEPTH DRILLED INTO ROCK		32.8		DATE HOLE		STARTED 3/1/89 COMPLETED 3/1/89	
TOTAL DEPTH OF HOLE		463.9		ELEVATION TOP OF HOLE		496.2	
				TOTAL CORE RECOVERY FOR BORING		32.8	
				SIGNATURE OF INSPECTOR		LMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.2			SLT/CLS/SS			PULL #1
	1		SLT, G.E.S.-M.H., SH			START 9:05
	2		Occ int + bbl w/CLS/SS		1	END 9:18
	3		BKN PNS ~.4 SPACING			TIME 13 min
	4		SS 1/5 LS 0.3-1.3, 4.3-9.5		3.7	DEL 13 min
	5		13.4-15.8 w/SS int + bbl			RAN 4.7
	6		bkn 0.0-0.3, 3.1-3.9			REC 4.7
	7		CL COATM PNS 1.3-3.1			LOSS 0
	8		CLS G.R.S. SH, 3.1-4.3, 8.7			UNACL 0
	9		-9.3, 11.2-11.9, 19.2-20.5		2	DCD 5.0
	10		SS. G.E.-LTGR. M.H.			PULL #2
	11		F-VEF9, SLT 9.5-7.2			START 9:50
	12		NN w/CL COATING 19.7, 45°		7.2	END 10:00
	13		ANG PN 15.7-16.3, ~.02 TAIL			TIME 10 min
	14		7.2 CL/SLT 9.3-11.2, 12.3		3	DEL 10 min
	15		13.9 HIGH ANG FINE 13.1			RAN 9.2
	16		19.8			REC 9.2
	17					LOSS 0
	18					UNACL 0
	19					DCD 13.9
	20					PULL #3
						START 10:09
					10.8	END 10:18
						TIME 19 min
						DEL 19 min
					4	RAN 2.1
						REC 2.1
						LOSS 0
						UNACL 0
						DCD 13.9
						PULL #4
					19.6	START 10:25
						END 10:30
						TIME 5 min
						DEL 5 min
						RAN 9.7
					5	REC 9.7
						LOSS 0
						UNACL 0
						DCD 13.9
						PULL #5
					18.3	START 10:30
						END 10:35
						TIME 15 min
						DEL 15 min
					6	RAN 4.5
					(CONT)	REC 4.1
						LOSS .4
						UNACL .9

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK + DAM

HOLE NO.  
R-6312





DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT Gallipolis Lock + Dam				10. SIZE AND TYPE OF BIT 4 X 5 1/2			
2. LOCATION (Coordinates or Station) MOND RBT STA 2+13.8				11. DAY OF ELEVATION SHOWN (TYPED OR PRINTED) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-69/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 9		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED 2/22/89 COMPLETED 2/22/89			
7. THICKNESS OF OVERBURDEN 8 496.9				17. ELEVATION TOP OF HOLE 496.9			
8. DEPTH DRILLED INTO ROCK 39.7				18. TOTAL CORE RECOVERY FOR BORING 39.9			
9. TOTAL DEPTH OF HOLE 462.2				19. SIGNATURE OF INSPECTOR JMD			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SLK/CLS/LS			PULL #1
	1		SLK, GR, S-M.H., OCC		1	START 11:25
	2		interbed w/CLS/LS			END 11:40
	3		BLW PN ~ 0.1 SPACING			TIME 15 min
	4		CLH) 0.0-3.0, CLS, GR,		3.7	DRL 15 min
	5		S, SH 0.9-1.1, 2.6-3.0,			RAN 9.8
	6		R-BP, CL, 9.8-5.6 SQ			REC 3.9
	7		7.9-9.9, 15.9-16.9 BLW			LOSS .9
	8		7.9-9.9, 20.3-20.5			UNACCL .9
	9		BLW PN ~ 0.7-0.3 SPACING			DCP 4.9 T/DCP 4.8
	10		below 5.6, high ANG		2	PULL #2
	11		FENC Terminating @ R/PN.			START 12:30
	12		19.1-19.5, 19.7-15.0, CL			END 12:50
	13		Below 18.5, 13.9-13.5,		8.0	TIME 20 min
	14		9.9-11.9, 6.8-7.9			DRL 20 min
	15					RAN 5.1
	16					REC 3.6
	17				3	LOSS 1.5
	18					UNACCL 1.5 T/DCP 9.7
	19					DCP 9.9
	20					PULL #3
						START 13:23
						END 13:39
						TIME 16 min
					13.0	DRL 16 min
						RAN 9.8
						REC 4.8
					4	LOSS 0
						UNACCL 0
						DCP + T/DCP 19.7
						PULL #4
						START 13:52
					16.9	END 14:01
						TIME 9 min
						DRL 9 min
					5	RAN 5.0
						REC 5.0
						LOSS 0
						UNACCL 0
						DCP + T/DCP 19.7
					20.0	PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-64/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
GALLIPOLIS LOCK & DAM				ORH-CD		Z	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SLS KLS KS		24.0	PULL #5	
475.2	21					START 7:20	
	22		ICL		6	END 7:39	
	23		R-BR, 5-MIN, NUM 511			TIME 19min	
	24		OCC ANG. DN, 1 R. ABOVE			DRL 19min	
	25		29.7, ITR-BR 29.7-28.5			RAN 5.0	
	26		R-BR R-Low 28.5			REC 5.0	
	27		SCURRELY BLW 28.5-		23.8	LOSS 0 UNACC 0	
	28		28.8, 29.3-29.5, 30.9-30.7			DEC 29.7	
	29		32.9-33.1, 33.9-34.9			T/DCP 29.5	
	30				7	PULL #6	
	31					START 7:46	
	32					END 7:54	
	33					TIME 18min	
	34				27.2	DRL 18min	
	35					RAN 3.8 LOSS 3	
	36					REC 3.5 UNACC 3	
	37					DEC 29.7	
	38				8	PULL #7	
	39					START 7:45	
	40					END 7:55	
	41				30.7	TIME 10min	
	42					DRL 10min	
	43					RAN 0.8	
	44				9	REC 0.7	
	45					LOSS 0.1	
	46					UNACC 0.1	
462.5	47		Bottom HOLE			PULL #8	
	48					START 8:10	
	49					END 8:39	
	50					TIME 29min	
	51					DRL 29min	
	52					RAN 5.1	
	53					REC 5.1	
	54					LOSS 0	
	55					UNACC 0	
	56					T/DCP 39.9	
	57					DEC 39.7	

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-248

PROJECT GALLIPOLIS Lock Dam  
HOLE NO. R-6411

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT GALLIPOLIS LOCK; DAM		OED		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) MONO R-64 STA 2+45A		10. SIZE AND TYPE OF BIT 4"X5.5"		11. DAYUM FOR ELEVATION (TIME or MSL) M.S.L.			
3. DRILLING AGENCY W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE		13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN		DISTURBED N/A	
4. HOLE NO. (As shown on drawing title and file number) R-64/2		14. TOTAL NUMBER CORE BOXES 10		15. ELEVATION GROUND WATER N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER		16. DATE HOLE 2/23/89		17. ELEVATION TOP OF HOLE 496.9		COMPLETED 2/23/89	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		18. TOTAL CORE RECOVERY FOR BORING 33.5		19. SIGNATURE OF INSPECTOR JMD			
7. THICKNESS OF OVERBURDEN 496.9		8. DEPTH DRILLED INTO ROCK 33.5		9. TOTAL DEPTH OF HOLE 463.4			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		CLS shy, s.-m.h, m, -dk.gr			PULL #1 START 12:10 END 12:23 TIME 13min DRL 13min KAN - REL 4.6	
494.7	2		SANDSTONE shy, s.g, m.h, m.-gr			LOSS 0 UNAC 0 T/DEP 4.6	
491.8	3		CLS shy, s.-m.h, m.g.R w/ sin nod			DEP 5.6 PULL #2 START 12:36 END 12:48 TIME 12min LOSS 0 DRL 12min UNAC 0 KAN - 1 REC 9.9 DEP 9.6 T/DEP 9.5	
489.7	4		CLS shy, sli, ss, s.-m.h, mdk.gr			PULL #3 START 12:55 END 1:12 TIME 17min UNAC 0 DRL 17min KAN - REC 4.5 LOSS 0 DEP 19.0 T/DEP 13.9	
488.8	5		CLS UEBKN (micch) w/huv, gr. CL. con, crushed 8.1- 9.5, shy s.-m.h core spin @ 10.0 - SL; IRR, hor pty w/occ sm.slk surface 10.4- 10.8 med spaced hor pty 11.0 - M.O, 0.3 sq L + nsd 13.4 - 13.7: grading into SLs			PULL #4 START 1:20 END 1:35 TIME 15min DRL 15min KAN - REC 5.0 LOSS 0 UNAC 0 T/DEP + DE 19.0 PULL #5 START 1:43 END 1:57 (CONT)	
482.9	6		CLS shy, s.-m.h, m.-dk.gr				
480.3	7		SS s.-m.h, m.-dk.gr, grading ss @ 14.6: shy ss 15.0-15.4 LARGE SS INCLs 15.5-16.0 grading clay w/depth				
	8		CLS shy, s.-m.h, m.-dk.gr				
	9		SS s.-m.h, m.-dk.gr, grading ss @ 14.6: shy ss 15.0-15.4 LARGE SS INCLs 15.5-16.0 grading clay w/depth				
	10		CLS shy, s.-m.h, m.-dk.gr				
	11		SS s.-m.h, m.-dk.gr, grading ss @ 14.6: shy ss 15.0-15.4 LARGE SS INCLs 15.5-16.0 grading clay w/depth				
	12		CLS shy, s.-m.h, m.-dk.gr				
	13		SS s.-m.h, m.-dk.gr, grading ss @ 14.6: shy ss 15.0-15.4 LARGE SS INCLs 15.5-16.0 grading clay w/depth				
	14		CLS shy, s.-m.h, m.-dk.gr				
	15		SS s.-m.h, m.-dk.gr, grading ss @ 14.6: shy ss 15.0-15.4 LARGE SS INCLs 15.5-16.0 grading clay w/depth				
	16		CLS shy, s.-m.h, m.-dk.gr				
	17		SS s.-m.h, m.-dk.gr, grading ss @ 14.6: shy ss 15.0-15.4 LARGE SS INCLs 15.5-16.0 grading clay w/depth				
	18		CLS shy, s.-m.h, m.-dk.gr				
	19		SS s.-m.h, m.-dk.gr, grading ss @ 14.6: shy ss 15.0-15.4 LARGE SS INCLs 15.5-16.0 grading clay w/depth				
	20		CLS shy, s.-m.h, m.-dk.gr				

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK; DAM HOLE NO. R-64/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. R-64/2	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK DAM			ORH-CD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #3 TIME 14min DEL 14min RAN -
	21		R. br, w/ few SLK 19.8 - 20.8		21.7	REC 4.0
474.1	22				Box 7	LOSS # UNAC #
	23		ICL			TIDE P 23.0 DEP 23.5
	24		GREENISH GR - R. br, S-M.A			PULL #6 START 2:07 RAN - END 2:17 REC 2.5 TIME 12min LOSS # DEL 12min UNAC #
	25		SLK, S. br 22.8 - 23.8		25.3	DEP + TIDE P 25.5
	26		becoming R. br @ 25.0			PULL #7 START 2:25 END 2:40 TIME 15min DEL 15min RAN -
	27				Box 8	REC 5.0 LOSS # UNAC #
	28				28.9	DEP/TIDE P 30.5 PULL #8 START 2:50 END 3:11 REC 3.0 TIME 21min LOSS # DEL 21min UNAC #
	29					RAN -
	30				Box 9	TIDE P 33.5 DEP 33.0
	31				32.5	
413.4	33		Bottom Hole		Box 10	
	34				33.5	
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 626 - 603

PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-64/2

DRILLING LOG		Division	INSTALLATION		Hole No.	Sheet
		ORD	ORH-CD		R-65/1	OF 2 SHEETS
1. PROJECT			10. SIZE AND TYPE OF BIT 4 1/2" I.D.			
2. LOCATION (Coordinates or Station)			11. DATUM FOR ELEVATION SHOWN (FEET or METER)			
MONO R-65 STA 2155A			M.S.L.			
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL			
W. B. JACOBS			B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number)			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NUMBER CORE BOXES	
R-65/1			DISTURBED N/A		UNDISTURBED N/A	
5. NAME OF DRILLER			15. ELEVATION GROUND WATER		16. DATE HOLE	
DAVE HARPER			N/A		STARTED 2/23/89	
6. DIRECTION OF HOLE			17. ELEVATION TOP OF HOLE		COMPLETED 2/23/89	
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			497.2			
7. THICKNESS OF OVERBURDEN			18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR	
0 497.2			33.5		JMO	
8. DEPTH DRILLED INTO ROCK						
39.0						
9. TOTAL DEPTH OF HOLE						
463.2						

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
497.2	1		CLS			PULL #1
			S.-m.h. sh, m. gr, o.i.l.c		Box 1	START 7:50
495.7			0.0-0.1			END 8:13
495.1	2		SS-sh, f.g, m.h, m.gr			TIME 23min
			CLS/SLs			DRL 23min
	3		interbed, s.-m.h. sh, m.gr			RAN -
			occ ss 1.5-3.7-4.3		3.9	REC 4.8
	4					LOSS 0.1
492.3						UNACC 0.1
	5		SS-sh, f.g, m.h, m.gr			DEP 5.0 TIDEP 9.9
491.2			WH FRAC 5.1-5.7: GRADING		Box 2	PULL #2
	6					START 8:18
			SLs/CLS			END 8:32
	7				7.3	TIME 19min
			interbed, sh, s.-m.h,			DRL 19min
	8					RAN -
			m.-dk gr. 0.3-1.6 b/w		Box 3	REC 3.9
	9					LOSS 0.3
			7.0-9.1 (mech) closely			UNACC 0.3 TIDEP 9.1
	10					DEP 10.0
			SPACED (0.2) hor pty		10.9	PULL #3
	11					START 8:43
			9.1-13.5 w/o 2 L.C. 0.3			END 8:57 UNACC 0.2
	12					TIME 19min
			L.C. b/w 13.9-14.6		Box 4	DRL 19min
	13					RAN -
						REC 4.2
	14					LOSS 0.2 TIDEP 13.5
482.6						DEP 14.0
	15		SLs		14.7	PULL #4
			ss, s.-m.h. m.gr			START 9:10
	16		GRADING			END 9:30
480.8						TIME 20min
			SLs		Box 5	DRL 20min TIDEP 16.9
	17		cl, s.-m.h, m.gr, pty			RAN -
			sh 0.2 L.C. b/w 16.4-20.0			REC 2.6
	18					LOSS 0.3
					18.2	UNACC 0.3
478.2					Box 6	DEP 18.4
	19		CLS (CONT)			PULL #5
			sh, s.-m.h, m.-dk gr			START 9:39 (CONT)
	20					END 9:50
						TIME 11min DEP 20.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK DAM HOLE NO. R-65/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 497.2		Hole No. R-65/1	
PROJECT Gallipolis Lock & Dam			INSTALLATION OEH-CD		SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
475.9	20		C/S occ. sky, indurated cl, R. br WLSLK 20.5-21.3		Box 6	DRL 11min PULL#5 RAN - UNACC 0.2 REL 3.6 LOSS 0.2 DEP 21.4	
473.7	21				21.4	PULL#6 START 10:29 END 10:45 TIME 16min DRL 16min RAN - REL 4.8 LOSS 0 UNACC 0 DEP 25.0	
	22		SLS occ. clay, s-m. h, sky 0.3 L.C. b/w 20.0' & 22.2		Box 7		
	23						
	24		ICK R. br, s-m. h, SLK		25.5	PULL#7 START 10:29 END 10:45 UNACC 0 TIME 16min DRL 16min RAN - REL 4.8 LOSS 0 T/DEP 29.0 DEP 29.2	
	25				Box 8		
	26						
	27				29.0	PULL#8 START 11:05 END 11:23 TIME 18min DRL 18min RAN - REL 4.5 LOSS 0 UNACC 0 T/DEP 33.5 DEP 33.0	
463.7	28				Box 9		
	29						
	30				32.8		
	31				Box 9		
	32				33.5		
	33		BOTTOM HOLE				
	34						
	35						
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A  
JAN 67

(NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

R-65/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
PROJECT		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT GALLI POLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2 IN			
2. LOCATION (Coordinate or Station) MONO R-65 STA 2+82.0				11. DATUM FOR ELEVATION SHOWN (FEET - MSL) M.S.L.			
3. DRILLING AGENCY W.G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-65/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 2/23/89 COMPLETED 2/24/89	
7. THICKNESS OF OVERBURDEN 0 496.9				17. ELEVATION TOP OF HOLE 496.9		18. TOTAL CORE RECOVERY FOR BORING 34.3	
8. DEPTH DRILLED INTO ROCK 34.3				19. SIGNATURE OF INSPECTOR JMD		2	
9. TOTAL DEPTH OF HOLE 462.6							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SLS/LLS			PULL #1	
	2		SLS, GR, S-M.H, SH, 0.9-2.0 2.6-3.0, 4.9-7.9, 9.8-12.8 13.6-16.1, 17.0-20.3, 20.9-22.5, CLS GR, S. SH 20-2.6, 7.9-9.8, 12.8-13.6		1	START 13:20 END 13:30 TIME 10 min DRL 10 min RAN 4.8 REC 4.8	
493.9	3		SANDSTONE		3.6	LOSS 0 UNACCL 0 DPT+T/DPT 4.8	
	4		GR, M.H U.E.F.				
492.0	5		SLS/LLS			PULL #2	
	6		20.3-20.9 RKN DN 0.15 SPAC		2	START 13:43 END 13:57 TIME 14 min DRL 14 min RAN 5.0 REC 4.7 LOSS 0.3 UNACCL 0.3 DPT+T/DPT 9.8	
	7		SH 0.0-2.0, SLS/LLS 2.6-3.0, 13.6-16.1, 17.0-19.2		7.2		
	8		19.1-19.2, RKN 3.2-3.9		3	PULL #3	
	9		7.9-8.3, 9.8-10.0, 12.9-13.2		11.0	START 14:08 END 14:19 TIME 11 min DRL 11 min RAN 9.9 REC 9.9 LOSS 0 UNACCL 0 DPT 14.8 T/DPT 14.7	
	10		19.9-19.6, CLS/LLS 9.9-2.9				
	11		10.7-12.8, 17.2-19.1, 21.2		4	PULL #4	
	12		RKN DN ~0.5 SPACING		18.3	START 14:28 END 14:38 TIME 10 min DRL 10 min RAN 4.7 REC 4.7 UNACCL 0 LOSS 0 T/DPT 18.9	
	13		UNDER 2.0' HIGH ANGLE		6	DPT 19.4	
	14		FRAC 14.1-15.7		CONT	PULL #5 (CONT)	
480.9	15		(CONT)				
480.0	16		SANDSTONE				
	17		GR, M.H, U.E.F.				
	18		SLS/LLS				
	19						
	20		CONT				

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT: GALLI POLIS LOCK & DAM HOLE NO. R-65/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLSKIS			PULL #5
	21				6	START
	22					END
474.9					22.0	TIME
	23		ICL			DRL
	24		R. BR, 5-M.H. NUM		7	RAN LOSS
	25		SLK, OCC MOTTLED			REC UNACC
	26		CHKGR. ABOVE 26.5		25.7	D.P. + T.D.P. 29.0
	27		SEVERELY BKN 25.9-29.9			PULL #6
	28		31.9-32.1, 33.0-33.3, 33.9-			START 8:06
	29		39.3			END 8:25
	30					TIME 19 MIN
	31					DRL 19 MIN
	32				8	RAN 5.0
	33					REC 5.0
	34				28.6	LOSS 0
	35					UNACC 0
	36					D.P. 29.3
	37					T.D.P. 29.4
	38				9	PULL #7
	39					START 9:11
	40					END 9:31
	41					TIME 20 MIN
	42				33.1	DRL 20 MIN
	43					RAN 4.9
	44				10	REC 4.9
	45					LOSS 0
462.6			BOTTOM HOLE		39.3	UNACC 0
	46					D.P. + T.D.P. 39.3

ENG FORM 1836-A  
JAN 67

GPO: 1968 OF-329-245

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
R-65/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OPH-CD		R-66/1	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4 1/2"	
3. DRILLING AGENCY		W. G. JACOBS		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-66/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		WAYNETICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED 1/1A UNDISTURBED 1/1A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		496.9		15. ELEVATION GROUND WATER		1/1A	
8. DEPTH DRILLED INTO ROCK		34.3		16. DATE HOLE		STARTED 2/23/89 COMPLETED 2/23/89	
9. TOTAL DEPTH OF HOLE		462.6		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		34.1 %	
				19. SIGNATURE OF INSPECTOR		LMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
			SLS / CLS / SS			PULL #1	
	1		S.L.T. 9R, S-M.N., SA			START 9:17	
	2		Occ interbed w lcls / ss		1	END 9:25	
	3		CLS. 9R, S, SA 0.0-8.5			TIME 8min	
	4		26-3.1, 9.3-9.6 10.3-10.7	3.2		DPL 8min	
	5		12.5-13.2 S.L.T., CLW 26-27			RAN 4.1	
	6		8.8-9.3, SS. 9R, M.N.,			REC 4.1	
	7		F- U.F. 9., S.L.T. 3.5-9.3			LOSS 0 DEP 4.1	
	8		4.8-5.1 so / lcls 4.3-4.8			UNACQ 0 DEP 4.7	
	9		clayey SLS ABOVE 13.2		3	PULL #2	
	10		SS. 9R M.N. U.F. 9R			START 9:33	
	11		13.2-15.2 CLS-R-9R	10.7		END 9:49	
	12		S. SA 19.8-20.7			TIME 11min	
	13		Occ clayey, SLS below			DPL 11min	
	14		18.5			RAN 5.1	
	15					REC 5.1	
	16				4	LOSS 0	
	17					UNACQ 0 DEP 9.2	
	18					PULL #3	
	19					START 9:56	
	20					END 10:11	
						TIME 15min	
						DPL 15min	
						RAN 5.1	
						REC 5.1	
						LOSS 0	
						UNACQ 0	
						TIDED DEP 14.3	
						PULL #4	
						START 10:29	
						END 10:37	
						TIME 13min	
						DPL 13min	
						RAN 4.9	
						REC 4.9	
						LOSS 0	
						UNACQ 0	
						DEP 19.3 TIDED DEP 19.9	
						PULL #5	
						CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-66/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			496.9		R-6611	
6611 POLIS LOCK & DAM			INSTALLATION		SHEET 2	
			DRHCP		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS 1/2 S 1/5		6	PULL #5 START 10:49 END 11:06 TIME 17min DRL 17min PAN 5.1 REC 5.1 LOSS 0 UNAC 0 DEP 29.3
479.1	21					
	22				28.6	
	23		ICL		7	PULL #6 TID-P249 START 11:15 END 11:40 TIME 25min DRL 25min PAN 4.7 REC 4.7 LOSS 0 UNAC 0 TID-P29.0 DEP 30.3
	24		R-BR, S-M.H., S.A. NUM			
	25		SLK CLAYCY OCC MOTTLED		25.3	
	26		W/GR-G.N.SR. DKGR			
	27		MOTTLED W/ R-BR ABOVE		8	PULL #7 START 12:17 END 12:46 TIME 29min DRL 29min PAN 5.1 REC 5.1 LOSS 0 UNAC 0 DEP 39.3
	28		27.5, SPURCELY D.L.			
	29		23.9-24.3, 29.0-29.7, 31.5		28.6	
	30		31.8, 33.3-33.7			
	31				9	
	32				32.1	
	33				10	
462.8	34		BOTTOM HOLE		39.1	
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
JAN 67 1836-A

GPO 1969 OF-329-245

PROJECT  
6611 POLIS LOCK & DAM

HOLE NO.  
R-6611

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4YS 1/2</b>			
2. LOCATION (Coordinates or Station) <b>MONO R-66 STA 3+30A</b>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACOBS</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B. 57 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-66/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>	
5. NAME OF DRILLER <b>WAYNE TICE</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <b>3/1/89</b>		16. DATE HOLE <b>3/1/89</b>	
7. THICKNESS OF OVERBURDEN <b>496.4</b>				17. ELEVATION TOP OF HOLE <b>496.4</b>		18. TOTAL CORE RECOVERY FOR BORING <b>39.6</b>	
8. DEPTH DRILLED INTO ROCK <b>34.9</b>				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
9. TOTAL DEPTH OF HOLE <b>461.5</b>							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.4	1		SLS/SS/CLS			PULL #1	
	2		SLS, GR. S, M.H., SH			START 10:00	
	3		BLN DN ~0.9 SPACE			END 10:15	
	4		INTERBEDD W/CLS			TIME 15 MIN	
	5		+SS., BLN 0.0-0.6,			DRL 15 MIN	
	6		3.6-3.8, 8.0-8.4, 10.4-10.7			RAN 5.1	
	7		CL GLS 1.3-3.0, 5.1-10.7,			REC 5.1	
	8		12.7-13.9, SS GR. M.H.,			LOSS 0	
	9		F.-VE.F. SLT, 3.0-5.1			UNACL 0	
	10		HIGH ANG FACL 3.0-4.4			DEP 4.9	
	11		CLS GR. S, SH 2.0-2.2			PULL #2 TIDCAS.1	
	12		7.8-9.6-11.3-11.6, 12.1			START 10:25	
	13		12.7 D.K. GR. 13.5-13.7			END 10:35	
	14		SO GLS 16.1-16.7			TIME 10 MIN	
	15					DRL 10 MIN	
	16					RAN 4.3	
	17					REC 4.3	
	18					LOSS 0	
	19					UNACL 0	
	20					DEP 4.9	
						PULL #3	
						START 10:45	
						END 11:00	
						TIME 15 MIN	
						DRL 15 MIN	
						RAN 5.0	
						REC 5.0	
						LOSS 0	
						UNACL 0	
						DEP 4.3	
						PULL #4	
						START 11:10	
						END 11:20	
						TIME 10 MIN	
						DRL 10 MIN	
						RAN 4.9	
						REC 4.7	
						LOSS 0.2	
						UNACL 0.2	
						DEP 4.3	
						PULL #5 (CONT)	

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **R-66/2**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			496.9		R-66/2	
GALLIPOLIS LOCK & DAM			INSTALLATION		SHEET 2	
			ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
479.9	20		CLS		6	PULL #5
	21		GR W/ OCULT R-BR, S, SL		20.9	START 11:30
	22		SLT W/SLK @ 22.0		7	END 11:40
473.9	22					TIME 10min
	23					DRL 10min
	24					RAN 4.3
	25					REC 4.0 UNAC 0.3
	26				24.1	LOSS 0.3
	27					DEPT 29.3
	28					T/D 29.6
	29					PULL #6
	30					START 12:10
	31				8	END 12:20
	32					TIME 10min
	33					DRL 10min
	34				27.8	RAN 5.1
	35					REC 5.1
	36					LOSS 0
	37				9	UNAC 0
	38					DEPT 29.7
	39					PULL #7
	40				30.8	START 12:50
	41					END 1:10
	42					TIME 20min
	43				10	DRL 20min
	44					RAN 9.9
	45					REC 9.5
	46					LOSS 0
	47					UNAC 0
461.8	47				34.6	T/D 29.6
	48					DEPT 29.9
	49					
	50					
	51					
	52					
	53					
	54					
	55					
	56					
	57					
	58					
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ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-325-245

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
R-66/2

DRILLING LOG		DIVISION ORH	INSTALLATION ORH-CD		Hole No. <u>R-67/1</u> SHEET 1 OF 2 SHEETS	
1. PROJECT <u>Gallipolis Lock! Dam</u>			10. SIZE AND TYPE OF BIT <u>4.5" SK</u>			
2. LOCATION (Coordinates or Station) <u>MONR R-67 STA 3440 A</u>			11. DAYUM FOR ELEVATION BROWN (TBM or BBL) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. B. JAGUES</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>R-67/1</u>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>			
5. NAME OF DRILLER <u>WAYNE TICE</u>			14. TOTAL NUMBER CORE BOXES <u>10</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>0</u> <u>496.6</u>			16. DATE HOLE STARTED <u>2/28/87</u> COMPLETED <u>2/28/87</u>			
8. DEPTH DRILLED INTO ROCK <u>32.6</u>			17. ELEVATION TOP OF HOLE <u>496.6</u>			
9. TOTAL DEPTH OF HOLE <u>462.0</u>			18. TOTAL CORE RECOVERY FOR BORING <u>32.6</u>			
			19. SIGNATURE OF INSPECTOR <u>JMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		CLS/SLS			PULL #1
	2		Int'ee bdd, s. -m. h., sly		Box 1	START 3:00 END 3:07 TIME 7min DEL 7min RAN - REC 4.7 LOSS 0 UNACQ 0
	3		m-dk. gr SLS-0.0-0.3;		3.6	
	4		3.3-4.2 sm. h nod. start			LOSS 0 UNACQ 0
	5		@ 4.4, bkn w/slk paws		Box 2	T/DEP 4.7 DEP 5.3
	6		B.2-9.0 w/o. 2 LC! 10.5			PULL #2
	7		-10.8; R. 6R 12.5-12.7		3.2	START 3:12 END 3:20 TIME 8min DEL 8min RAN - REC 4.1
	8				Box 3	T/DEP 9.0
	9					LOSS 0.2 UNACQ 0.2
	10				10.5	DEP 10.7
	11					PULL #3
	12					START 7:00 END 7:10 TIME 10min DEL 10min RAN - REC 4.8 LOSS 0 UNACQ 0
	13				Box 4	DEP 13.0
482.8	14		SLS		14.2	PULL #4
	15		sr, s. -m. h., m. gr. sa			START 7:30 END 7:42 TIME 12min DEL 12min RAN - REC 3.8 LOSS 0 UNACQ 0
	16		ve. f. dcc sm. nod		Box 5	
	17		CLS-15.3-15.7			PULL #5
	18				17.9	START 8:00 END 8:10 TIME 14min DEL 14min RAN - REC 4.3 LOSS 0 UNACQ 0
478.0	19		CLS		Box 6	T/DEP 18.9
	20		S-m. h., m-dk. gr ICL 19.0-19.8 (CONT)		(CONT)	PULL #6 (CONT)

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PROJECT  
GALLIPOLIS LOCK! DAM

HOLE NO.  
R-67/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. <i>P-67/1</i>	
PROJECT <i>GALLIPOLIS Lock &amp; DAM</i>				INSTALLATION <i>ORH-CD</i>		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	20		CLS		Box 6	PULL #6	
4750	21				Box 7	START 7:46 END 8:00 TIME 19min DRL 14min RAN - REC 4.3 LOSS 0 UNAC 0	
	22		ICL				
	23		P. BR, S.-M.H. SLK				
	24						
	25						
	26				Box 8	START 8:15 END 8:40 TIME 25min DRL 25min RAN - REC 3.9 LOSS 0 UNAC 0	
	27						
	28					T/DEP 27.7	
	29				Box 9		
	30						
	31					DEP 30.3	
	32					PULL #8	
464.0	33		Bottom HOLE		Box 10	START 9:00 END 9:30 TIME 30min DRL 30min RAN - REC 4.9 LOSS 0 UNAC 0	
	34					T/DEP 32.4	
	35					DEP 33.5	
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM  
JUN 67

1836-A

(RR 1110-1-1801)

GPO 1980 OF-628-503

PROJECT

*GALLIPOLIS Lock & DAM*

HOLE NO.

*P-67/1*

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
PROJECT		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinate or Station)				11. DATUM FOR ELEVATION SHOWN (TBM or BBL)			
3. DRILLING AGENCY				12. MANUFACTURER'S DESIGNATION OF DRILL			
4. HOLE NO. (As shown on drawing title and file number)				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN			
5. NAME OF DRILLER				14. TOTAL NUMBER CORE BOXES			
6. DIRECTION OF HOLE				15. ELEVATION GROUND WATER			
7. THICKNESS OF OVERBURDEN				16. DATE HOLE			
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE			
9. TOTAL DEPTH OF HOLE				18. TOTAL CORE RECOVERY FOR BORING			
				19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.1	1		SLS/CLS/LS			PULL #1	
	2		S.L.T. gr. s-m.H. sh, 0.5-0.2			START 10:15	
	3		2.6-2.9, CLS gr. S, sh			END 10:27	
	4		0.0-0.5, 2.0-2.6, 3.6-4.0			TIME 12 min	
	5		SS. gr. m-H. U.F.F. 2.9			DRL 12 min	
	6		-3.6 BKN 0.0-1.1, 0.1-0.2			RAN 4.9	
	7		from fossil @ 3.8 high any			REC 9.9	
	8		FRAC 4.2-4.5			LOSS 0	
492.5	9		SANDSTONE			UNACC 0	
	10		gr, m.H. F. U.F.F. 1.1, 1.1			DEPT/D=4.9	
490.8	11		gr w/lt coat, 1.9 ~ 3.0 SLS.3			PULL #2	
	12		SLS			START 10:38	
	13		gr. s-m.H. sh, occ			END 10:50	
	14		interbedded CLS, BKN p.w.			TIME 12 min	
	15		~ 0.3 spacing, cl 6.3-9.1			DRL 12 min	
	16		12.1-12.5 Below 21.8			RAN 5.0	
	17		CLS gr. S, sh 9.1-10.1			REC 4.9	
	18		10.8-11.2, 12.5-13.9, 20.7			LOSS 0.1	
	19		21.8, 22.8-23.9, ANS FRAC			UNACC 0.1	
	20		-30° 10.6-14.8, from.			DEPT/D=9.7	
	21		fossil 12.7 BKN 9.9-10.1			PULL #3	
	22		15.9-16.1, 17.7-19.8 ss			START 11:00	
	23		15.1-15.9			END 11:11	
	24		(CONT)			TIME 11 min	
	25					DRL 11 min	
	26					RAN 4.8	
	27					REC 4.6	
	28					LOSS 0.2	
	29					UNACC 0.8	
	30					DEPT/D=19.7	
	31					PULL #4	
	32					START 12:05	
	33					END 12:14	
	34					TIME 9 min	
	35					DRL 9 min	
	36					RAN 5.0	
	37					REC 5.0	
	38					LOSS 0	
	39					UNACC 0	
	40					DEPT/D=19.7	
	41					PULL #5	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-67/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. R-67/2	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK & DAM				ORH-ED			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SLS.		6	PULL #5	
	21				24.9	START 12:29	
	22					END 12:35	
	23				7	TIME 11min	
	24					DRL 11min	
472.8						RAN 5.0	
						REC 5.0	
						LOSS 0	
	25		ICL		29.7	UNACCLD DCP 29.7	
	26		R-BR, S-MH, NUM,			PULL #6 TIDCP 29.8	
	27		SLK, CLAYY, OCC MOTTLED		8	START 12:47	
	28		WLR - 9NGR, DKGR			END 13:11	
	29		ABOVE 26.0, SPURRELY			TIME 24min	
	30		BKN 24.3-24.5; 24.7-24.8		28.2	DRL 24min	
	31		31.6-31.8; 33.1-33.7			RAN 5.1	
	32					REC 5.1	
	33				9	LOSS 0	
	34					UNACCLD	
462.3						DCP + TIDCP 29.8	
	35		BOTTOM HOLE			PULL #7	
	36				31.8	START 13:20	
	37					END 13:41	
	38					TIME 21min	
	39				10	DRL 21min	
	40					RAN 5.0	
	41					REC 4.7	
	42					LOSS 0.3	
	43				34.8	UNACCLD 0.3	
	44					DCP + TIDCP 34.8	

ENG FORM 1836-A  
JUN 67

GPO: 1968 OF-325-265

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. R-67/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET /	
		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4 X 5/8			
2. LOCATION (Coordinate or Station) MOND R-68 STA 3+85A				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.			
3. DRILLING AGENCY W. G. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) P-68/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 10		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED 2/25/89 COMPLETED 2/27/89			
7. THICKNESS OF OVERBURDEN 0 497.9				17. ELEVATION TOP OF HOLE 497.9			
8. DEPTH DRILLED INTO ROCK 34.9				18. TOTAL CORE RECOVERY FOR BORING 33.6			
9. TOTAL DEPTH OF HOLE 463.0				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.4			SLT / CLS			PULL #1	
	1		GR, S-M, H, SH, OCC			START 12:52	
	2		inter bed w/cls + ss, sh		1	END 1:07	
	3		1.4 spacing, BKN 0.0-0.8			TIME 15 min	
			1.3-1.9, 2.7-2.9, 8.5-9.2			DRL 15 min	
			10.3-11.2, 11.7-12.0 12.5-			RAN 9.8	
			12.9 13.3-14.0 20.0 20.3			REC 9.8	
493.3	4		SS / SLT 0.0-1.2, 3.6-4.1, 14.3-16.1		3.8	LOSS 0	
	5		SANDSTONE			UNACCL 0	
	6		GR, M, H, F, G			DEP 3.0 TIDEP 9.8	
	7				2	PULL #2	
						START 1:13	
						END 1:23	
489.9					2.3	TIME 10 min	
	8		SLT / CLS			DRL 10 min	
	9		CLAYSTONE, GR, S, SH,		3	RAN 4.6	
	10		2.9-2.9, 8.1-8.9, 13.0-14.1,			REC 4.6	
	11		CL COATING DN 7.6-20.0			LOSS 0	
	12		CL / SLT 7.6-8.1, 9.9-2.8			UNACCL 0 TIDEP 9.5	
	13		10.3-13.0, 15.3-18.9		10.8	DEP 9.8	
	14		BKN DN ~ 0.2 SPACING			PULL #3	
	15		8.2-14.3, HIGH ANG FRAC			START 1:33	
	16		14.3-15.1, ANG FRAC 45°		9	END 1:46	
	17		17.5-17.8			TIME 13 min	
	18					DRL 13 min	
	19					RAN 4.8	
	20					REC 4.8	
					14.3	LOSS 0	
						UNACCL 0 TIDEP 14.3	
						DEP 19.5	
					5	PULL #4	
						START 1:55	
						END 2:11	
						TIME 16 min	
						DRL 16 min	
						RAN 3.4	
					17.7	REC 3.4 TIDEP 17.7	
						LOSS 0	
					6	UNACCL 0	
						DEP 19.1	
			(CONT)		(CONT)	PULL #5	
						START 7:22	
						END 7:42 (CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-68/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET		
6ALLI POLIS Lock+Dam			OPH-CD	2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT/CLS			PULL #5
	21				6	TIME 70min
	22				21.5	DPL 20min
	23					RAN 9.5
479.0						REC 9.2
						LOSS 0.3
						UNACC 0.3
						DEP 22.7
	24		ICT		7	PULL #6
	25		R. BR S-M.H, SA			START 7:50
	26		NUM SLP, BKN, OCC		25.3	END 8:06
	27		MOTTLED W/GP, -9N, 9A			TIME 16min
	28		CLAYCY DESA ABOVE			DPL 16min
	29		26.8, SCUMPLY BKN			RAN 9.7
	30		25.3-25.8, 28.8-29.1, 31.5		8	REC 4.6
	31		32.1			LOSS 0.1
	32					UNACC
	33					DEP 27.2
463.8			BOTTOM HOLE		9	PULL #7
	34					START 8:19
	35				28.8	END 8:31
	36					TIME 17min
	37					DPL 17min
	38					RAN 3.9
	39					REC 3.7
	40					UNACC 0.2
	41					LOSS 0.2
	42					DEP 31.3
	43				10	PULL #8
	44				32.3	START 8:40
	45					END 8:57
	46				33.6	TIME 17min
	47					DPL 17min
	48					RAN 3.6
	49					REC 2.8
						LOSS 1.8
						UNACC 1.8

ENG FORM 1836-A  
JAN 67

GPO 1969 OF-228-242

PROJECT  
6ALLI POLIS Lock+Dam

HOLE NO.  
R-6811

DRILLING LOG		DIVISION	INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS Lock & DAM			ORH-CD			
2. LOCATION (Coordinates or Station) MOND R-68 STA 4+20A			10. SIZE AND TYPE OF BIT 4 1/2" I.D.			
3. DRILLING AGENCY W. G. JACQUES			11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) R-68/2			12. MANUFACTURER'S DESIGNATION OF DRILL R-57 MOBILE			
5. NAME OF DRILLER WAYNE TICE			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DES. FROM VERT.			14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
7. THICKNESS OF OVERBURDEN 0 496.8			15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 33.5			16. DATE HOLE 2/24/89		STARTED 2/25/89	
9. TOTAL DEPTH OF HOLE 463.3			17. ELEVATION TOP OF HOLE 496.8			
			18. TOTAL CORE RECOVERY FOR BORING 33.5			
			19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SLS KLS			PULL #1
	2		GR. S-m.H. sh, BKN			START 19:20
	3		PNS. 0.4 spacing,		1	END 19:30
	4		BKN PNS 0.2 spacing 0.9			TIME 10min
	5		-2.3, BKN 0.0-0.9, B.3-			DRL 10min
	6		B.6, SLS 0.8-1.2		39	RAN 4.7
	7		CLS GR. S, SA 2.5-3.2			REL 9.7
	8		B.3-8.8, 9.7-10.0, 13.7-13.9			LOSS 0
	9		SS GR. m.H F-UEF.7.			UNACL 0
	10		SLT 3.6-5.6, clayey SLS			DEP 4.8 T/DEP 9.7
	11		6.6-7.9, 8.8-9.3, 10.5-11.1			
	12				2	PULL #2
	13					START 19:41
	14					END 19:50
	15				7.5	TIME 9min
	16					DRL 9min
	17					RAN 5.0
	18				3	REL 5.0
	19					LOSS 0 1
	20					UNACL 0
	21				9.7	DEP 9.8 T/DEP 9.7
	22					
	23				4	PULL #3
	24					START 7:30
	25					END 8:00
	26					TIME 30min
	27					DRL 30min
	28					RAN 4.8
	29				13.5	REL 9.8
	30					LOSS 0
	31					UNACL 0
	32					DEP 19.7 T/DEP 9.3
	33				5	PULL #4
	34					START 8:10
	35					END 8:25
	36				16.6	TIME 15min
	37					DRL 15min
	38					RAN 9.8
	39				6	REL 4.7
	40					LOSS 0.1
	41					UNACL 0.1
	42				(cont)	DEP 19.6 T/DEP 19.3
	43					PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS Lock & DAM HOLE NO. R-68/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. R-6812	
PROJECT				496.8		Hole No. R-6812	
GALLIPOLIS Lock & DAM				INSTALLATION		SHEET 1 OF 2 SHEETS	
ORH-CD							
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SLT		24.1	PULL #5	
	21					START 8:30	
	22					END 8:50	
479.6					7	TIME 20 min	
	23		ICL			DEL 20 min	
	24		R. BR, S. M. H, Sh, Num			RAN 4.9	
	25		WLSLK, OCC mottled w/		23.9	REL 4.9 UNACC #	
	26		GR-GN GR, dk GR ABOVE		8	LOSS #	
	27		25.0 SCURPLY BKN 22.5-			DEP 29.7 T/DEP 29.5	
	28		29.5, 27.5-29.5, 33.0-33.5			PULL #6	
	29				26.2	START 9:00	
	30					END 9:30	
	31					TIME 30 min	
	32				9	DEL 30 min	
	33					RAN 5.6	
	34					REL 5.6	
	35					LOSS #	
	36					UNACC #	
	37				29.9	DEP 29.8 T/DEP 29.5	
	38					PULL #7	
	39				10	START 9:40	
	40					END 10:12	
	41					TIME 32 min	
	42					DEL 32 min	
	43					RAN 4.0	
463.3			Bottom HOLE		33.5	REL 4.0 T/DEP 33.5	
	44					LOSS #	
	45					UNACC #	

ENG FORM JUN 67 1836-A

OPD 1968 OF-328-243

PROJECT GALLIPOLIS Lock & DAM HOLE NO. R-6812

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-69/1	
PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4" X 5.5"			
2. LOCATION (Coordinate or Station) MOND R-69 STA 4130N				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY U. G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-69/1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A			
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 10			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.8				16. DATE HOLE STARTED 2/25/87 COMPLETED 2/25/87			
8. DEPTH DRILLED INTO ROCK 33.1				17. ELEVATION TOP OF HOLE 496.8			
9. TOTAL DEPTH OF HOLE 463.7				18. TOTAL CORE RECOVERY FOR BORING 33.1			
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.8	1		SLS S.-m.h., m.-dk.gr., sly bkw w/ang sly. p.lns 2.2-2.6		Box 1	PULL #1 START 9:36 END 9:55 TIME 19min	
499.0	2					DEL 19min UNACQ	
493.3	3		CLS S.-m.h., m.-dk.gr., sly		3.5	RAN - REL 4.8	
	4		SANDSTONE sly. fs., m.h., m.gr. irr., o. VERT JT. 3.5-4.2		Box 2	LOSS 0 DEP 5.0 TIDEP 9.8	
491.8	5		SLS m.-gr., s.-m.h., occ sly sh			PULL #2 START 10:04 END 10:18 TIME 14min	
490.7	6		SA S.O.-S.4		6.9	DEL 19min UNACQ 0.3	
	7		CLS S.-m.h., m.-dk.gr., sly		Box 3	RAN - REL 4.2	
	8					LOSS 0.3 TIDEP 9.7	
	9		w/ closely - m. spaced		10.3	DEP 9.8 PULL #3 START 10:28 END 10:39 TIME 11min	
484.3	10				Box 4	DEL 11min RAN - REL 4.8	
	11					LOSS 0 UNACQ 0 DEP 18.3	
	12		SLS sa, m.-dk.gr., s.-m.h.		13.5	TIDEP 13.5	
482.4	13		GRADING			PULL #4 START 10:49 END 11:00 TIME 11min	
	14		SLS/CLS Interbedd., s.-m.h., m.-dk.gr.		Box 5	LOSS 0.2 DEL 11min UNACQ 0.2	
	15					RAN - REL 4.8	
	16		occ sa, pts bkw, occ cl.		Box 6	DEP + TIDEP 18.5 PULL #5 START 11:12 END 11:28	
479.9	17		0.2 LC btwn 13.5' & 17.4'		17.2	(CONT)	
	18		SLS sa, s.-m.h., m.-gr.			(CONT)	
477.6	19						
	20		SLS/CLS Interbedd., s.-m.h., m.-dk.gr.				

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
R-69/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 ALLIPOLIS LOCK DAM		DRH-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLSICKS		Box 6	PULL #5
	21		Thin Ice Lens, btwn A.21, 20.6 w/ 0.2 L.C. (mech.)		20.8	TIME 16min
479.8	22		GRADING		Box 7	DRL 16min
	23		ICK			RAN -
	24		GREENISH GR. - R.6R.15.M.A.			REC 4.1
	25		SLK: GREENISH TO 29.5			LOSS 0.2
	26		VE.6KW 24.5-26.3 w/a.1			UNACL 0.2 T/DEP 22.8
	27		L.C. 1.2 L.C. btwn 26.3 &			DEP 23.5
	28		30.0			PULL #6
	29				24.5	START 11:36
	30					END 11:47
	31				Box 8	TIME 11min
	32					DRL 11min
	33					RAN - T/DEP 26.3
	34					REC 3.4
	35					LOSS 0.1
	36				27.8	UNACL 0.1 DEP 27.8
	37					PULL #7
	38					START 12:00
	39					END 12:12
	40					TIME 12min
	41				Box 9	DRL 12min
	42					RAN - T/DEP 30.0
	43					REC 2.5
	44					LOSS 1.2
	45					UNACL 0.2 DEP 31.3
	46					PULL #8
	47				32.4	START 12:24
	48				Box 10	END 12:35
463.7	49		BOTTOM HOLE			TIME 11min
	50				33.1	DRL 11min
	51					RAN -
	52					REC 3.1
	53					LOSS 0
	54					UNACL 0

ENG FORM  
JAN 67

1836-A

(RR 1110-1-1801)

GPO 1966 OF - 638 - 603

PROJECT

6 ALLIPOLIS LOCK DAM

HOLE NO.

R-69/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. R-69/2	
1. PROJECT		ORR		ORR-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLI POLIS LOCK DAM		10. SIZE AND TYPE OF BIT 4" 1/2"		11. DATUM FOR ELEVATION SHOWN (TBM or BM)	
3. DRILLING AGENCY		W. G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-69/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER		WAYNE TICE		14. TOTAL NUMBER CORE BOXES		10	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		497.6		16. DATE HOLE		STARTED 2/25/89 COMPLETED 2/25/89	
8. DEPTH DRILLED INTO ROCK		32.7		17. ELEVATION TOP OF HOLE		497.6	
9. TOTAL DEPTH OF HOLE		463.9		18. TOTAL CORE RECOVERY FOR BORING		33.7	
				19. SIGNATURE OF INSPECTOR		LMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.6	1		CLS			PULL #1	
	2		S.-m.h, m.-dk.gr, s.l.y		Box 1	START 10:25	
	3		O.I.L.C. O.O.-O.I; S.R. LENS			END 10:40	
	4		O.7-14.1 BKN (mech) 4.2-			TIME 15 min	
	5		4.6; SLS w/some calc			DRL 15 min	
	6		nod. 4.6-5.4: U.C.BKN			RAN -	
	7		6.4-6.9: U.C.BKN 8.4-9.1			REC 4.1	
	8		SLS S.R. SLS 9.4-9.9			LOSS 0.1	
	9		10.7-11.3 sm (21)			UNACC 0.1	
	10		inicks 11.3-11.7			DEP 4.4 TIDEP 4.2	
	11					PULL #2	
	12				Box 2	START 10:50	
	13					END 11:00	
	14					TIME 10 min	
	15					DRL 10 min	
	16					RAN -	
	17					REC 5.2	
	18				Box 3	LOSS 0.1	
	19					UNACC 0.1	
	20					DEP 5.9 TIDEP 5.2	
	21					PULL #3	
	22					START 11:10	
	23					END 11:20	
	24					TIME 10 min	
	25					DRL 10 min	
	26					RAN -	
	27				Box 4	REC 4.8	
	28					LOSS 0	
	29					UNACC 0	
	30					PULL #4	
	31					START 11:30	
	32				Box 5	END 11:40	
	33					TIME 10 min	
	34					DRL 10 min	
	35					RAN -	
	36					REC 5.1	
	37				Box 6	LOSS 0	
	38					UNACC 0	
	39					DEP 18.5	
	40					TIDEP 19.3	
	41					PULL #5	
	42					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLI POLIS LOCK DAM HOLE NO. R-69/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-69/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
6ALLIPOLIS Lock + Dam		OCH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	20		CLS		Box 6	PULL#5
	21		S.M.H, M.G.R. ELONGATED		20.8	START 11:50
			ROD STARTED @ 21.0			END 12:10
475.2	22				Box 7	TIME 20 MIN
						DRL 20 MIN
	23		ICL			RAIN - UNACCD
	24		GREENISH GR. - R. BR,			REL 5.0
			S.M.H. SLK VE BKN			LOSS 0
	25		22.3-24.3 GREENISH	28.3		DEP 29.2
			GR TO 25.0, 0.5 LC.			PULL#6
	26		BTWN 29.3 & 29.3		Box 8	START 12:20
						END 12:40
	27					TIME 20 MIN
						DRL 20 MIN
	28					RAIN -
					27.9	REL 5.0
	29					LOSS 0
						UNACCD
	30				Box 9	TIDE 29.3 DEP 29.4
						PULL#7
	31					START 12:50
						END 1:20
	32				31.5	TIME 30 MIN
						DRL 30 MIN
	33					RAIN -
463.9					Box 10	REL 5.0
						LOSS 0
	34		BOTTOM HOLE		35.7	UNACCD
						DEP 39.4 TIDE 39.3
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1960 OF - 628-603

PROJECT

6ALLIPOLIS Lock + Dam

HOLE NO.

R-69/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
ORD		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4 1/2 IN			
2. LOCATION (Coordinate or Station) MONO R-70 STA 4775A				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W. G. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-70/1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 497.5				16. DATE HOLE 2/24/87		STARTED 2/25/87	
8. DEPTH DRILLED INTO ROCK 40.8				17. ELEVATION TOP OF HOLE 497.5			
9. TOTAL DEPTH OF HOLE 456.7				18. TOTAL CORE RECOVERY FOR BORING 39.7			
				19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.5	1		SLT SLT			PULL #1	
	2		SLT, GR, S-M.H, SH			START 12:50	
	3		0.0-2.3, 3.5-6.5, 7.0-7.7, 8.2		1	END 1:03	
	4		11.7, CLS GR, S, SH 2.3-3.5			TIME 13min	
	5		6.5-7.0, 7.7-8.2, 11.7-17.3		38	DRL 13min	
	6		Thin bed 0.1 to 0.3, BLN 0.0-0.5			RAN 4.4	
	7		2.0-2.3, 6.5-7.0 BLN PN			REC 3.9	
	8		~ 0.1 SPACING W/CLAY			LOSS 0.5	
	9		CONTIN. 2.3-7.0, 11.7-12.3			UNACC 0.5 T/D P 9.9	
	10		CL SLT 5.3-6.5, 6.9-7.7, 9.9		3	DEPT 10.9	
	11		10.2 SLT SLT 8.8, -9.3			PULL #2	
	12				2	START 1:10	
	13		SLT			END 1:25	
	14		GR, S-M.H, BLN, P.N.S,		7.6	TIME 15min	
	15		~ 0.6 SPACING, SQ 13.0-17.0			DRL 15min	
	16		18.9-19.1 CL 17.6-17.8			RAN 5.0	
	17		CLS, GR, S, SH 19.8-20.3			REC 5.0	
	18		22.0-22.5 BLN 21.4-22.0		3	LOSS 0.1 UNACC 0.5	
	19					DEPT 10.9	
	20				11.2	PULL #3	
	21					START 1:31	
	22					END 1:50	
	23					TIME 19min	
	24				4	DRL 19min	
	25					RAN 5.0	
	26					REC 4.8	
	27					LOSS 0.2	
	28				19.6	UNACC 0.2	
	29					DEPT 19.9	
	30					PULL #4	
	31					START 1:58	
	32					END 2:10	
	33				5	TIME 12min	
	34					DRL 12min	
	35					RAN 4.3	
	36					REC 4.2	
	37				18.3	LOSS 0.1	
	38				6	UNACC 0.1 T/D P 18.7	
	39					DEPT 18.9	
	40					PULL #5	
	41					(CONT)	
	42					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-70/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. R-70/1	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLI POLIS Lock + Dam				OPEN-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
474.8	20		SLT		6	PULL #5 START 2:18 END 2:30 TIME 16 min DRL 16 min RAN 5.0 LOSS 0 REC 5.0 UNAC 0 DEPT 23.7	
	21						
	22				21.9		
	23		ICL		7	PULL #6 START 2:42 END 2:55 TIME 13 min DRL 13 min RAN 3.7 REC 3.7 LOSS 0.2 UNAC 0.2 DEP 28.1 T/DEP 27.6	
	24		L-BR, S-MH, NUM				
	25		SLT THROUGHOUT, OCC MOTTLED		25.5		
	26		W/GR-GN GR, CLAYING				
	27		DK, GR, ABOVE 23.7		8		
	28		SUBSILLY B/W 22.1-22.5				
	29		33.3-33.6, 33.1-34.0		27.2	PULL #7 START 8:00 END 8:15 TIME 25 min DRL 25 min LOSS 0.6 RAN 4.4 UNAC 0.6 REC 3.8 T/DEP 33.4 DEP 32.4	
	30		38.8-39.2 SLT, 27.6-28.3				
	31		30.0-32.0		9		
	32						
	33				38.6	PULL #8 START 8:33 END 8:51 TIME 18 min DRL 18 min UNAC 0.4 RAN 4.0 REC 3.6 T/DEP 36.0 LOSS 0.4 DEP 37.0	
	34						
	35				37.5	PULL #9 START 9:04 END 9:20 TIME 16 min DRL 16 min RAN 3.7 UNAC 0 REC 3.7 LOSS 0 DEP 40.8	
457.8	36				11		
	37						
	38				39.7	PULL #10 START 9:04 END 9:20 TIME 16 min DRL 16 min RAN 3.7 UNAC 0 REC 3.7 LOSS 0 DEP 40.8	
	39						
	40		BOTTOM HOLE				
	41						
	42						
	43						
	44						

ENG FORM  
JUN 67 1836-A

GPO: 1968 OF-328-243

PROJECT  
GALLI POLIS Lock + Dam

HOLE NO.  
R-70/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		OLD		ORH-CD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		6ALLI POLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4YSK	
3. DRILLING AGENCY		W. G. JACOBS		11. DAYUM FOR ELEVATION SHOWN (FEET - INCHES)		N.S.L	
4. HOLE NO. (As shown on drawing title and file number)		R-70/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		WAYNE TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		12	
7. THICKNESS OF OVERBURDEN		497.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.9		16. DATE HOLE		STARTED 2/25/87 COMPLETED 2/27/87	
9. TOTAL DEPTH OF HOLE		458.0		17. ELEVATION TOP OF HOLE		497.9	
				18. TOTAL CORE RECOVERY FOR BORING		39.6	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.9			SLS/CLS/SS			PULL #1	
	1		SLT, 9P, 5-MH, SA, OCC			START 1:30	
	2		INTERBEDD w/cls/SS		1	END 1:43	
	3		BKN PMS w/1.4 SPACING			TIME 13min	
	4		BKN PMS ~.05-0.1		3.5	DRL 13min	
	5		SA, 0.0-3.5, 6.5-7.1			RAN 4.7	
	6		CLS, 9P, 5, SA, 2.6-3.1		2	REC 4.7	
	7		7.8-9.3, 19.7-20.9, SA/			LOSS 0	
	8		SLS 3.5-4.9, 13.3-14.3		7.1	UNACL 0 DEP 9.6	
	9		14.4-14.7, 18.5-18.7, CL & LT		3	TIME 11min	
	10		5.0-6.5, 7.3-7.8, 10.2-		9.6	DRL 11min	
	11		13.3, 15.0-18.5, 18.8-			RAN 4.9	
	12		19.7, BKN 8.8-9.3, ANG		3	REC 0	
	13		PN ~ 950 w/cls cooling		9.6	LOSS 0 UNACL	
	14		13.8-14.2		5	DEP 9.4 TIDEP 9.3	
	15					PULL #3	
	16				4	START 7:15	
	17					END 7:30	
	18					TIME 15min	
	19				13.2	DRL 15min	
	20					RAN 4.8	
					5	REC 4.8	
						LOSS 0	
						UNACL 0 DEP 14.9	
						PULL #4	
					16.5	START 7:40	
						END 8:00	
						TIME 20min	
					6	DRL 20min	
						RAN 5.0	
						REC 5.0	
						LOSS 0	
						UNACL 0	
						DEP 14.5 TIDEP 14.4	
			(CONT)		19.9		

ENG FORM 1836  
MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLI POLIS LOCK + DAM HOLE NO.  
R-70/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No. R-7012	
PROJECT				497.9	SHEET 2	
GALLI POLIS LOCK + DAM				ORH-CD	OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT/CLT/SS			PULL #5
	21					START 8:10
	22				7	END 8:20
475.6						TIME 10min
	23		ICL			DEL 10min
	24		P-BL, S-M.H, Sh.		23.7	RAN 5.1
	25		BLW, NUM SLT.			REC 5.1
	26		occ mottled w/GR.		8	LOSS 0
	27		SNGR. CLAYey, HFGR.			UNAKC 0
	28		ABOVE 25.5, SEVERELY			T/D 29.2
	29		BLW 22.3-22.9, 23.7-24.5		9	DEP 29.5
	30		29.6-30.4, 30.6-31.2			
	31					PULL #6
	32					START 8:30
	33					END 8:50
	34				26.9	TIME 20min
	35					DEL 20min
	36					RAN 5.1
	37					REC 5.1
	38				9	LOSS 0
	39					UNAKC 0
	40					DEP 29.5
	41					PULL #7
	42				34.6	T/D 29.6
	43					START 9:00
	44					END 9:20
	45					TIME 20min
	46				10	DEL 20min
	47					RAN 5.0
	48					REC 5.0
	49					LOSS 0
	50				34.2	UNAKC 0
	51					T/D 34.6
	52					DEP 35.0
	53					PULL #8
	54				11	START 9:30
	55					END 9:40
	56				37.2	TIME 10min
	57					DEL 10min
	58					RAN 5.3
	59				12	REC 5.3
	60					LOSS 0
458.0			BOTTOM HOLE		39.6	UNAKC 0
	61					DEP 39.7
	62					T/D 39.7
	63					
	64					

ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-325-243

PROJECT  
GALLI POLIS LOCK + DAM  
HOLE NO.  
R-7012

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		2. LOCATION (Coordinate or Station) <b>MONO R-71 STA 5+22A</b>		10. SIZE AND TYPE OF BIT <b>4X5X</b>		11. DATE FOR ELEVATION SHOWN (Y-M-D) <b>M.S.L.</b>	
3. DRILLING AGENCY <b>W. G. JACOBS</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		14. TOTAL NUMBER CORE BOXES	
4. HOLE NO. (As shown on drawing title and file number) <b>R-711</b>		15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
5. NAME OF DRILLER <b>STEVE FRYE</b>		18. DATE HOLE		19. SIGNATURE OF INSPECTOR <b>JMD</b>		20. SIGNATURE OF INSPECTOR	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		19. SIGNATURE OF INSPECTOR		20. SIGNATURE OF INSPECTOR		21. SIGNATURE OF INSPECTOR	
7. THICKNESS OF OVERBURDEN <b>0 496.8</b>		19. SIGNATURE OF INSPECTOR		20. SIGNATURE OF INSPECTOR		21. SIGNATURE OF INSPECTOR	
8. DEPTH DRILLED INTO ROCK <b>38.8</b>		19. SIGNATURE OF INSPECTOR		20. SIGNATURE OF INSPECTOR		21. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE <b>458.0</b>		19. SIGNATURE OF INSPECTOR		20. SIGNATURE OF INSPECTOR		21. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SCORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.8			SLS 1/15			PULL #1
	1		SLS GR, S, M, H, SH,			START 8:10
	2		OCCLAR, BKN PMS-43			END 8:30
	3		SPACING, CLS GR, S, SH			TIME 20min
	4		BKN PM ~ 0.1 SPACING, SLS			DRL 20min
	5		0.0-1.3, 2.0-5.5, 6.3-6.9			RAN 4.9
	6		7.1-9.9, 8.2-9.7, 10.0-			REL 4.0
	7		10.5, 12.3-16.6, 17.1-19.7			LOSS 0.9
	8		CLS 1.3-2.0, 5.5-6.3, 6.9-			UNAKL 0.9
	9		7.1, BKN PMS, 0.5 SPACE			DEPS.0 TIDEP4.9
	10		0.0-1.3, BKN 1.3-1.7, 5.0-			
	11		5.2, 8.8-8.9, 11.5-11.6, 13.4			PULL #2
	12		-13.6, 18.9-19.3, 5.0 LLS			START 8:45
	13		2.0-3.6, 9.0-9.3, 13.0-14.0			END 9:07
	14		HIGH HNS FINE-13.3-14.5			TIME 22min
	15					DRL 22min
	16					RAN 4.8
	17					REL 4.6
	18					LOSS 0.2
	19					UNAKL 0.2 TIDEP9.7
	20					DEP 10.2
	21					PULL #3
	22					START 9:29
	23					END 9:42
	24					TIME 18min
	25					DRL 18min
	26					RAN 4.6
	27					REL 4.6
	28					LOSS 0
	29					UNAKL 0 TIDEP13
	30					DEP 15.1
	31					PULL #4
	32					START 10:03
	33					END 10:15
	34					TIME 12min
	35					DRL 12min
	36					RAN 2.6
	37					REL 2.6
	38					LOSS 0
	39					UNAKL 0
	40					PULL #5
	41					START 10:30
	42					END 10:48
	43					TIME 18min
	44					DRL 18min
	45					RAN 4.2
	46					REL 4.2
477.1	47					
	48					
	49					
	50					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-711

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS			PULL#5
	21		GR, S, SH, BKN, GRATS		6	LOSS @ UNACQ T/DEP 21.1
	22		into ICI @ Bottom			PULL#6
	23		Severely BKN 22.6-		23.9	START 11:05
	24		23.3, 29.0 - 25.4			END 11:16
	25				7	TIME 11min
	26					DRL 11min
470.8	27					RAN 9.3
	28					REC 4.3
	29					LOSS @ UNACQ
	30					DEP 25.5 T/DEP 25.1
	31		ICI			PULL#7
	32		R-BR w locc mottled		26.6	START 12:26
	33		w 1/2 GR - 9 NGR, SH,			END 12:40
	34		BKN, num SLK,		8	TIME 19min
	35		Severely BKN 32.0-32.7			DRL 19min
	36		39.0-39.6			RAN 9.2
	37					REC 3.5
	38					LOSS 0.7
	39					UNACQ 0.7 T/DEP 28.6
	40				30.6	DEP 30.1
	41					PULL#8
	42				9	START 12:53
	43					END 1:09
	44					TIME 16min
	45					DRL 16min
	46					RAN 5.0
	47					REC 5.0
	48				39.4	LOSS @
	49					UNACQ T/DEP 39.6
	50					DEP 39.9
	51					PULL#9
	52				10	START 1:15
	53					END 1:37
	54					TIME 22min
	55					DRL 22min
	56					RAN 9.2
	57					REC 9.2
458.0	58				38.1	LOSS @ UNACQ
	59		BOTTOM HOLE		11	DEP + T/DEP 38.8
	60				38.8	
	61					
	62					
	63					
	64					

ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-325-242

PROJECT  
GALLIPOLIS LOCK & DAM  
HOLE NO.  
R-7111

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT		GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4 X 5 1/2	
2. LOCATION (Coordinate or Station)		MONO E-71 STA 5+62		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L	
3. DRILLING AGENCY		W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number)		R-71/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		STEVE FRYE		14. TOTAL NUMBER CORE BOXES		11	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		497.1		16. DATE HOLE		STARTED 9/7/89 COMPLETED 9/7/89	
8. DEPTH DRILLED INTO ROCK		39.6		17. ELEVATION TOP OF HOLE		497.1	
9. TOTAL DEPTH OF HOLE		457.5		18. TOTAL CORE RECOVERY FOR BORING		39.6	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.1			SLS/GLS			PULL #1	
	1		SLS w/occ interbed			START 10:56	
	2		CLS, SLS, GR, S-M.H., SH		1	END 11:10	
	3		occ sh, Bkn pns ~ .3			TIME 19min	
	4		CLS, GR, S, SH Bkn			DPL 19min	
	5		PNS ~ 0.3, SLS 0.0-4.6		38	RAW 9.9	
	6		6.2-7.5, 8.2-9.7, 10.9-10.8			REC 9.9	
	7		11.3-11.7, 12.1-16.7, 16.9-			LOSS 0	
	8		18.2, 19.0-20.5, CLS 4.6			UNACCLD TIDP 4.9	
	9		-6.2, 7.5-8.2, 9.7-10.9			DPL 4.9	
	10		10.8-11.3, 11.7-12.1, 16.7-		2	PULL #2	
	11		16.9, 18.2-F.O			START 11:18	
	12		Bkn 0.7-0.9, 3.3-9.3, 11.7			END 11:25	
	13		-12.1, Bkn pns ~ 0.15pace		73	TIME 7min	
	14		0.0-9.9 S2 / SLS 8.8-8.9			DPL 7min	
	15		12.1-12.6, 13.0-15.9, 17.0-17.1			RAW 3.8	
	16		SB, GR UE, F.F. M.H			REC 4.5	
	17		12.6-13.0		4	LOSS 0	
	18					UNACCLD TIDP 8.9	
	19				3	DPL 8.7	
	20					PULL #3	
						START 12:14	
						END 12:28	
					10.8	TIME 19min	
						DPL 14min	
						RAW 5.1	
					4	REC 9.8	
						LOSS 0	
						UNACCLD	
					14.2	DPL 13.8 TIDP 13.7	
						PULL #4	
						START 12:37	
						END 12:51	
					5	TIME 19min	
						DPL 19min	
						RAW 4.5	
						REC 9.5	
					17.8	LOSS 0 UNACCLD	
						DPL 8.3 TIDP 8.2	
					6	PULL #5	
						START 1:00	
						END 1:13	
					CONT	TIME 13min	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-71/2



DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		PROJECT		HOLE NO.	
GALLIPOLIS LOCK + DAM				497.1		ORH-CD		R-71/2	
CLASSIFICATION OF MATERIALS (Description)				% CORE RECOVERY		BOX OR SAMPLE NO.		REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
ELEVATION	DEPTH	LEGEND							
a	b	c	d	e	f				
476.6	20		SLSKLS						
	21		CLS		6			PULL #5	
	22		GR, S, SH SLT @ Top		21.9			DRL 13min	
			grades into R-BR ICL					RAN 9.6	
474.1	23		@ Bottom occurs below 22.1					REC 9.7	
								LOSS 0	UNACC 0
	24		ICL		7			DEPT TIDCP 22.9	
			R-BR, S, SH, NUMSLK					PULL #6	
	25		BLW OCC MOTTLED WL					START 1:23	
	26		GR. SCATTERLY BROKEN		25.1			END 1:37	
	27		28.5-28.7, 30.8-32.1					TIME 19min	
	28		39.0-39.6					DRL 19min	
	29							RAN 3.3	UNACC 0
	30				8			REC 3.8	TIDCP 26.3
	31							LOSS 0	DEPT 26.7
	32							PULL #7	
	33							START 1:45	
	34				28.7			END 2:05	
	35							TIME 20min	
	36							DRL 20min	
	37							RAN 5.4	
	38				9			REC 4.7	
	39							LOSS 0.7	
	40							UNACC 0.7	
	41							DEPT 32.2	TIDCP 30.1
	42							PULL #8	
	43				32.9			START 2:20	
	44							END 2:28	
								TIME 8min	
								DRL 8min	
								RAN 2.5	
					10			REC 2.0	DEPT 34.5
								LOSS 1.5	TIDCP 34.6
								UNACC 1.5	
					36.6			PULL #9	
								START 2:35	
								END 2:50	
								TIME 15min	
					11			DRL 15min	
								RAN 5.0	
								REC 5.0	UNACC 0
					39.6			LOSS 0	DEPT TIDCP 39.6
457.5	40								
	41								
	42								
	43								
	44								

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-245

PROJECT  
GALLIPOLIS LOCK + DAM  
HOLE NO.  
R-71/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
1. PROJECT		ORD		GRH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS Lock + DAM		10. SIZE AND TYPE OF BIT		4 1/2 H	
3. DRILLING AGENCY		W.G. JABOES		11. DATUM FOR ELEVATION SHOWN (FEET or METER)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-72/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		STEVE FRYE		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		Ø 497.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		36.0		16. DATE HOLE		STARTED 4/6/89 COMPLETED 4/7/89	
9. TOTAL DEPTH OF HOLE		461.9		17. ELEVATION TOP OF HOLE		497.9	
				18. TOTAL CORE RECOVERY FOR BORING		33.9	
				19. SIGNATURE OF INSPECTOR		JMP	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.9			SLS/CLS			PULL #1	
	1		SLS, GR. S-M.H. SH			START 2:12	
	2		OCC SQ BKN DWS			END 2:30	
	3		~0.3 SPACING, CLS GR. S.			TIME 18min	
	4		SH, SLS 0.8-2.6, 2.9-7.6			DRL 18min	
	5		7.9-8.2, 9.1-12.9, 12.7-19.7			RAN 5.1	
	6		20.1-20.3, 20.6-21.1, CLS			REC 3.5	
	7		0.2-0.8, 2.6-2.9, 7.6-7.7			LOSS 0.7	
	8		8.2-9.1-12.9-12.7, 19.7			UNACCL 0.7	
	9		20.1-20.3-20.6, BKN ~			D.C.P.S.1	
	10		0.1 spacing 0.0- .55.			PULL #2	
	11		LTGR, M-CG, M.H			START 7:17	
	12		BKN 0.0-0.2, BKN			END 7:35	
	13		0.5-0.8, 2.2-2.5, 2.9-3.1			TIME 18min	
	14		5.0-5.1 5.4-5.8, 8.8-9.1			DRL 18min	
	15		11.9-11.6 SLS/CLS 9.1-9.5			RAN 4.1 LOSS Ø	
	16		9.1-9.5, 13.1-13.5, 19.3-			REC 4.7 UNACCL Ø	
	17		15.0, 16.0-16.5, 19.0-19.1			DEP 9.2 TIDCP 9.1	
	18		CL/CLS 5.1-7.6, 11.6-11.9			PULL #3	
	19		SS, GR. LTGR, F.9, M.H			START 17:46	
	20					END 8:03	
						TIME 17min	
						DRL 17min LOSS Ø	
						RAN 4.7 UNACCL Ø	
						REC 4.8	
						D.C.P. + TIDCP 13.9	
						PULL #4	
						START 8:11	
						END 8:26	
						TIME 15min	
						DRL 15min	
						RAN 1.8	
						REL 11.6	
						LOSS Ø	
						UNACCL Ø	
						TIDCP 15.3	
						D.C.P. 15.9	
						PULL #5	
						START 8:39	
						END 8:43	
						TIME 4min	
						DRL 4min	
						RAN 3.7 UNACCL 0.1	
						REL 3.8	
						LOSS 0.1	
						TIDCP + DEP 19.9	
						PULL #6	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS Lock + DAM HOLE NO. R-72/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No. R-7211	
PROJECT			INSTALLATION	SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock + DAM			GRH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.9	20		SLS/CLS GRADATIONAL @ TOP + BOTTOM W/SL (B.S. 19.3)			PULL #6
	21				6	START 8:52
	22		CLS GR. S, Sh, BKN, OCC SLK @ BOTTOM, GRADATIONAL W/ R-BRICK, BOTTOM AND SLS @ TOP BLPNS, ~ 0.2, SEVERELY BKN 22.2-22.5, 23.2-29.0		22.2	END 9:08 TIME 16 min DEL 16 min RAN 4.9
	23				7	REC 5.0 UNACCLD LOSS 0 DEP 29.3
472.7	24					TIDEP 29.9
	25				25.9	PULL #7
	26		ICL R-BR, S, Sh, NUM SLK			START 9:33
	27		BKN OCC MOTTLED W/GR-		8	END 9:46 TIME 13 min DRL 13 min RAN 5.9
	28		GN. GR, SEVERELY BKN			REC 5.0
	29		26.0-26.2, 27.7-28.0		29.1	LOSS 0 UNACCLD
	30		29.1-29.9			TIDEP 29.9 DCP 29.7
	31				9	PULL #8
	32					START 10:20
	33					END 10:35
	34					TIME 15 min DRL 15 min RAN 6.3
463.3	35		BOTTOM HOLE		33.9	REC 3.1
	36					LOSS 1.9
	37					UNACCLD 1.9
	38					TIDEP 33.7
	39					DCP 36.0
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1949 OF-229-248

PROJECT  
GALLIPOLIS Lock + DAM  
HOLE NO.  
R-7211

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT		ORD		ORH-CD			
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4 1/2" V	
3. DRILLING AGENCY		MONO R-72/2 STA 5462A		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		R-72/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		STEVE FRYE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 497.6		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.1		16. DATE HOLE		STARTED 9/8/87 COMPLETED 9/8/87	
9. TOTAL DEPTH OF HOLE		463.5		17. ELEVATION TOP OF HOLE		497.6	
				18. TOTAL CORE RECOVERY FOR BORING		33.6	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.6			SLT / CLS			PULL #1	
	1		INTERLOCK, SLT 9R,			START 7:28	
	2		S. M. H., SH, OCC SG			END 7:40	
	3		BKN PNS ~ 0.3 SPACE			TIME 12 min	
	4		CLS, GR, S, SH, BKN PNS			DRL 12 min	
	5		12 SPACE SLT 0.0-2.6			PAN 5.0	
	6		3.0-8.2, 9.0-10.0, 10.5			REL 3.7	
	7		19.3, 20.2-20.9 CLS			LOSS 0.9	
	8		2.6-3.0, 8.2-9.0, 10.0-10.5			UNACC 0.9 T/D 4.6	
	9		19.3-20.2, BKN CL 1.8			DRL 5.0	
	10		2.4-2.6, 8.0-8.2, 12.1-12.6			PULL #2	
	11		14.3-19.7 BKN PNS ~ 1			START 7:48	
	12		OR LESS spacing: 0.0-2.6			END 7:56	
	13		SG SLT 3.0-3.7, 9.1-9.6			TIME 8 min	
	14		12.6-13.2, CL SLT 9.6-8.2			DRL 8 min	
	15		10.5-11.1 18.8-19.3, CL			PAN 4.9	
	16		2.2-2.9 BKN PNS ~ 1.25 space			REL 5.0	
	17		16.2-18.9			LOSS 0	
	18					UNACC 0 T/D 9.6	
	19					DRL 9.9	
	20					PULL #3	
						START 8:08	
						END 8:21	
						TIME 13 min	
						DRL 13 min	
						PAN 4.7	
						REL 2.1	
						LOSS 0.2	
						UNACC 0.2	
						DRL 19.8	
						PULL #4	
						START 8:30	
						END 8:36	
						TIME 6 min	
						DRL 6 min	
						PAN 0.1	
						REL 2.9	
						LOSS 0.2	
						UNACC 0.2	
						PULL #5	
						START 8:42	
						END 8:53	
						TIME 11 min	
						DRL 11 min	
						PAN 3.6	
						REL 2.8	
						LOSS 0.5 UNACC 0.5	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-72/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. R-72/2	
PROJECT				INSTALLATION		SHEET 2	
GALLI POLIS Lock+Dam				QRH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
476.7	20		SLSKLS				
	21		CLS		6	PULL #6 START 9:06 END 9:12 TIME 6 min DPL 6 min RAN 13.9 REC 9.3 LOSS 0 UNACCL 0 TIDEP 22.5 DEP 23.4	
	22		GR, S, SH, GRADATIONAL w/SLK @ Top + ICL @ Bottom SLK @ Bottom		22.6		
	23						
	24						
472.3	25		ICL		7	PULL #7 START 9:20 END 9:56 TIME 36 min DPL 36 min RAN 18.6 REC 2.0 LOSS 0.9 UNACCL 0.9 TIDEP 25.0 DEP 25.1	
	26				26.6		
	27		R. BR. S, BKN, SA,				
	28		NUM. SLK, OCC. MOTTLED		8	PULL #8 START 10:04 END 10:17 TIME 13 min DPL 13 min RAN 9.9 REC 9.1 LOSS 0.2 UNACCL 0.2 TIDEP 29.9 DEP 29.9	
	29		w/GR + GN GR, SEVERELY				
	30		BKN 26.6-26.9, 30.0 -		30.3		
	31		30.3, 32.5-39.0				
	32				9	PULL #9 START 10:24 END 10:40 TIME 16 min DPL 16 min RAN 4.2 REC 4.6 LOSS 0 UNACCL 0 TIDEP 39.0 DEP 39.0	
463.6	34		Bottom Hole		39.0		
	35						
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A  
AN 67

GPO 1969 O7-329-243

PROJECT GALLI POLIS Lock+Dam  
HOLE NO. R-72/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET /	
PROJECT		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 X 5 1/2			
2. LOCATION (Coordinates or Station) MONO R-73 STA 6+20.4				11. DATUM FOR ELEVATION SHOWN (TBM = MEAN) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) R-73/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER STEVE FRVE				14. TOTAL NUMBER CORE BOXES 9		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE 9/8/89		COMPLETED 9/8/89	
7. THICKNESS OF OVERBURDEN 0 497.4				17. ELEVATION TOP OF HOLE 497.4			
8. DEPTH DRILLED INTO ROCK 34.3				18. TOTAL CORE RECOVERY FOR BORING 33.4			
9. TOTAL DEPTH OF HOLE 463.1				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.4			SLS / CLS			PULL #1	
	1		inter bth, SLS gr. S-			START 11:08	
	2		m.H., sh, occ, sa, BKN		1	END 11:19	
	3		PNS 0.3 SPACING, occ			TIME 11min	
	4		CLAYEY. CLS, gr, s, sh		3.5	DRL 11min	
	5		BKN PNS ~ 0.7 SPACING			RAN 9.7	
	6		SLT 0.0-0.2, 0.8-2.6, 3.3-			REC 3.8	
	7		4.8, 5.6-7.3, 8.0-2.8, 11.6			LOSS 0.7	
	8		19.6, 20.1-22.0, CLS			UNACC 0.7 T/D 0.9.5	
	9		0.2-0.8, 2.6-3.3, 7.3-8.0			DCP 9.9	
	10		9.8-11.6, 15.6-20.1, BKN			PULL #2	
	11		0.0-0.2, 2.8-3.1, 7.7-8.0		2	START 12:35	
	12		8.8-8.9, 11.0-11.6, 17.9-17.7			END 12:48	
	13		BKN PNS ~ 0.1 SPACING 0.0		7.7	TIME 13min	
	14		3.5, 6.2-8.0, 5.0 / 5.5 3.5-			DRL 13min	
	15		4.8, 5.6-6.2, 13.7-15.5			RAN 9.3	
	16		SA GR LTGR, FG, m.H			REC 9.1	
	17		4.8-5.6 CL / SLS 6.2-7.3			LOSS 0.3 T/D 0.8.5	
	18		8.7-9.1, 12.3-13.0, HIGH			UNACC 0.3 DCP 9.2	
	19		ANY FRAC 14.5-15.9		3	PULL #3	
	20					START 12:56	
					11.6	END 1:06	
						TIME 10min	
						DRL 10min	
					4	RAN 4.6	
						REC 4.8	
						LOSS 0 UNACC 0	
					9	DCP 13.8 T/D 13.7	
						PULL #4	
					15.1	START 1:15	
						END 1:28	
						TIME 13min	
						DRL 13min	
					5	RAN 5.1	
						REC 4.7	
						LOSS 0	
					18.6	UNACC 0 T/D 18.4	
					6 (CONT)		
						DCP 19.9	

ENG FORM 1836  
MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK & DAM  
HOLE NO.  
R-73/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK+DAM		ORH-CD		R-73/1		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLs/cls			PULL#5
	21					START 1:35
	22				6	END 1:49
475.4						TIME 4min
						DPL 14min
						RAN 3.9
					26.3	REC 7.5
						LOSS 0.1
						UNACC 0.1
						T/DEP 23.0
						DEP 23.3
	23		CLS			PULL#6
	24		GR, S, SH, 9 RADITIONAL WLSIS			START 1:57
	25		@ Top + w/ ICL @ Bottom			END 2:05
472.9			SLK @ Bottom BKN, SCURELY		7	TIME 8min
			BKN 23.6-29.5			DPL 8min
	26					RAN 9.9
	27		ICL		26.0	REC 9.7
	28		R. BR, S, SH, BKN, NUM,			LOSS 0
	29		SLK, OCC MOTTLED w/			UNACC 0
	30		GR-GN, GR, SCURELY			T/DEP 27.3
	31					DEP 27.7
	32		BKN 29.5-26.0; 27.0-27.7		8	PULL#7
	33		29.3-27.7			START 2:22
						END 2:35
					29.7	TIME 13min
						DPL 13min
						RAN 3.8
						REC 3.9
						LOSS 0.5
					9	UNACC 0.5
						DEP 31.5
						PULL#8
						T/DEP 31.6
						START 2:48
469.0	33		BOTTOM HOLE		33.4	END 3:02
	34					TIME 19min
	35					DPL 19min
	36					RAN 2.8
	37					REC 1.8
	38					LOSS 0
	39					UNACC 0
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK+DAM

HOLE NO.

R-73/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS Lock & Dam		10. SIZE AND TYPE OF BIT		4 1/2 IN	
3. DRILLING AGENCY		MONO R-75 STA 6+55A		11. DAY OF FOR ELEVATION SHOWN (TEN = 100)		M.S.L	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACQUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBIKE	
5. NAME OF DRILLER		R-73/2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		STEVE FRYE		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 497.0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		33.3		16. DATE HOLE		STARTED 9/13/89 COMPLETED 9/13/89	
9. TOTAL DEPTH OF HOLE		463.7		17. ELEVATION TOP OF HOLE		497.0	
				18. TOTAL CORE RECOVERY FOR BORING		33.1	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		SLT/CLS			PULL #1	
	2		Inter bed, SLT, 9R. S-M, H			START 9:12	
	3		Sh, BKN PNS, 0.2-0.3 SPAC			END 9:22	
	4		CLS 9R. S. Sh, BKN PNS			TIME 10 min	
492.9	5		0.1-0.2 SPACINGS CONT			DRL 10 min	
	6		SANDSTONE			RAN 4.9	
	7		SR, M.H. UEA-F9.			REC 3.1	
491.0	8		SLT/CLS			TIDEP 37	
	9		SLT 0.0-2.7, 6.0-6.5, 7.7			LOSS 0.6	
	10		-9.6, 12.2-18.0, 19.1-20.1			UNACC 0.6	
	11		20.8-21.3 CLS 2.7-4.1, 6.5			DEP 9.9	
	12		7.7, 9.6-12.2, 18.0-19.2			PULL #2	
	13		20.1-20.8, BKN PNS 0.1			START 9:30	
	14		W/ 1.0-3.7, BKN 0.0-1.0			END 9:39	
	15		3.7-4.1 7.8-8.3, 18.0-18.5			TIME 9 min	
	16		20.1-20.8, clayey SLT			DRL 9 min	
	17		6.0-6.5, 12.2-12.9, 19.3-			RAN 2.3	
	18		18.0 CLAY SCAM 7.1-7.3			REC 4.1	
	19		SLT 8.7-9.1, 12.9-14.3			LOSS 0	
	20		BKN PNS 0.1 SPACINGS			TIDEP 7.2	
	21		W/CL CONTING 9.6-12.2, 14.3-			UNACC 0	
	22		(CONT)			DEP 7.8	
	23					PULL #3	
	24					START 9:46	
	25					END 9:57	
	26					TIME 7 min	
	27					DRL 7 min	
	28					RAN 5.0	
	29					REC 9.3	
	30					LOSS 0	
	31					UNACC 0	
	32					DEP 12.2	
	33					PULL #4	
	34					START 10:06	
	35					END 10:10	
	36					TIME 4 min	
	37					DRL 4 min	
	38					RAN 1.9	
	39					REC 2.2	
	40					UNACC 0	
	41					DEP 19.1	
	42					PULL #5	
	43					START 10:19	
	44					END 10:28	
	45					TIME 9 min	
	46					DRL 9 min	
	47					RAN 3.9	
	48					REC 3.8	
	49					LOSS 0	
	50					DEP 18.0	
	51					PULL #6	
	52					START 10:35	
	53					END 10:44	
	54					TIME 9 min	
	55					DRL 9 min	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS Lock & Dam HOLE NO. R-73/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. R-73/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock + Dam		OPH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
4752	20		SLS/CLS - 17.3, 0.1-0.3 SPACING		6	PULL #6 RAN 9.5 REC 4.4 LOSS 0 UNACC 0
4730	21		CLS GR. S, SH, GRADATIONAL w/ SLT @ TOP TO ICL @ Bottom BKN, SLT @ Bottom SEVERELY BKN 22.4-22.5, 23.2-24.0		23.3	DEP + TIDE 22.5
	22				7	PULL #7 START 10:50 END 11:06 TIME 16min DRL 16min
	23				25.7	RAN 7.9 REC 5.2 LOSS 0 UNACC 0
	24		ICL P-BR, S, SH BKN, num		8	TIDE 27.7
	25		SLT OCC, MOTTLED w/GR-		27.4	PULL #8 START 11:20 END 11:30 TIME 10min DRL 10min
	26		GN, GR, SEVERELY BKN		9	RAN 2.5 REC 9.5 LOSS 0 UNACC 0
	27		29.0-28.0		33.1	TIDE 33.2 DEP 33.4
4639	28		BOTTOM HOLE		33.1	PULL #9 START 12:40 END 12:47 TIME 7min DRL 7min RAN 0.9 REC 0.7 LOSS 0 UNACC 0
	29					TIDE 33.1 DEP 33.3
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
ADN 67 1836-A

(BR 1110-1-1801)

GPO 1960 OF-628-603

PROJECT

GALLIPOLIS Lock + Dam

HOLE NO.

R-73/2



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT Gallipolis Lock & Dam		OPD		OPH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) MONO R. 74 STA 6+65A		3. DRILLING AGENCY W. G. JACOBS		10. SIZE AND TYPE OF BIT 4 X 5 1/2		11. DAYUM FOR ELEVATION SHOWN (TIME = MIN.) M.S.L	
4. HOLE NO. (As shown on drawing title and file number) R-74/1		5. NAME OF DRILLER STEVE FRYE		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN 497.3		14. TOTAL NUMBER CORE BOXES 9		15. ELEVATION GROUND WATER N/A	
8. DEPTH DRILLED INTO ROCK 34.9		9. TOTAL DEPTH OF HOLE 462.4		16. DATE HOLE STARTED 9/11/89 COMPLETED 9/11/89		17. ELEVATION TOP OF HOLE 497.3	
				18. TOTAL CORE RECOVERY FOR BORING 33.8		19. SIGNATURE OF INSPECTOR JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.3	1		SL/S/CLS			PULL #1	
	2		INTERBED SL/S/CLS			START 7:48	
	3		SL/S, GR., S-M.H., SH, BKN		1	END 7:56	
	4		PNS - 0.3 SPACING, CLS,			TIME 8 min	
	5		GR. S., SH, BKN PNS			DRL 8 min	
	6		0.2 SPACING, SL/S 0.0-		3.7	RAN 4.9	
	7		2.5, 3.0-3.7, 4.6-8.1, 9.2			REC 4.2	
	8		17.3, 18.7-19.9, 19.6-21.9			LOSS 0.4	
	9		CLS, 2.5-3.0, 3.7-4.6, 8.1			UNAC 0.9 TDCP 4.6	
	10		-9.2, 17.3-18.7, 18.9-19.6			DCP 4.9	
	11		BKN 0.0-1.0, 3.3-3.7, 8.3-			PULL #2	
	12		8.4, 9.0-9.4, 11.1-11.3, 12.8		2	START 8:06	
	13		-19.0, CLS SCAM 19-19.5,			END 8:19	
	14		2.9-3.0 CL/SL/S 7.6-8.1			TIME 13 min	
	15		11.1-12.0, 20.0-21.9, BKN		7.6	DRL 13 min	
	16		PNS ~ 0.1 SPACING w/			RAN 1.9	
	17		CL COATING 15.0-17.4, 17.3			REC 4.1	
	18		18.7, SL/S/SLT 9.9-10.7			LOSS 0.3 TDCP 9.0	
	19				3	UNAC 0.3 DEP 9.3	
	20					PULL #3	
	21					START 8:27	
	22				11.3	END 8:36	
	23					TIME 9 min	
	24					DRL 9 min	
	25				4	RAN 4.8	
	26					REC 5.0	
	27					LOSS 0	
	28				14.9	UNAC 0 DEP 14.1 TDCP 14.0	
	29					PULL #4	
	30					START 8:49	
	31				5	END 9:01	
	32					TIME 12 min	
	33					DRL 12 min	
	34					RAN 4.9	
	35					REC 4.5	
	36				18.2	LOSS 0.2	
	37				6	UNAC 0.2 DEP 18.5	
	38				(CONT)	TDCP 18.7	
	39					PULL #5	
	40					START 9:10	
	41					END 9:10	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
Gallipolis Lock & Dam  
HOLE NO.  
R-74/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.3		Hole No. R-74/1	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.9	20		SLS/CLS		6	PULL #5 TIME 10min DRL 10min RAN 4.5 UNACC 0 REC 4.6 LOSS 0 DEP 23.0
472.3	21		CLS GR. S, SH BKN		7	PULL #6 START 9:30 END 9:41 TIME 11min DRL 11min RAN 5.3 REC 4.3 LOSS 0.7 UNACC 0.7 DEP + T/DEP 28.3
465.5	22		GRADATIONAL w/ ICL @ BOTTOM, SCURRELY BKN 22.6-24		8	PULL #7 START 9:50 END 10:00 TIME 10min DRL 10min RAN 6.0? T/DEP 31.9 REC 2.7 LOSS 0.9 UNACC 0.9 DEP 33.8
	23		ICL R-BP, S, SH, BKN, NUM		9	PULL #8 START 10:10 END 10:20 TIME 10min DRL 10min RAN 0.6 REC 2.9 LOSS 0 UNACC 0 DEP 39.9
	24		SLS, OCC INCTLED w/			
	25		GR. - GNGR, SCURRELY			
	26		BKN 8.3-8.8			
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34		BOTTOM HOLE			
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (NR 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-74/1

DRILLING LOG			INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS Lock + Dam</b>			ORD		ORH-CD	
2. LOCATION (Coordinates or Station) <b>MONO R-79 STA 7+00A</b>			10. SIZE AND TYPE OF BIT <b>4x5 1/2</b>			
3. DRILLING AGENCY <b>W.G. JAGUES</b>			11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>R-79/2</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
5. NAME OF DRILLER <b>STEVE FRYE</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b> UNDISTURBED <b>N/A</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES <b>10</b>			
7. THICKNESS OF OVERBURDEN <b>497.6</b>			15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>34.9</b>			16. DATE HOLE <b>9/13/87</b> STARTED <b>9/14/87</b> COMPLETED			
9. TOTAL DEPTH OF HOLE <b>463.2</b>			17. ELEVATION TOP OF HOLE <b>497.6</b>			
			18. TOTAL CORE RECOVERY FOR BORING <b>33.7</b>			
			19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.6	1		SLT/CLS			PULL #1
	2		INT-CLAY SLT/CLS			START 1:03
	3		SLT GR, S-M.H., SH, CLS		1	END 1:10
	4		GR, S, SH, SLT 0.0-1.8,			TIME 7min
	5		1.2-3.8, 7.6-9.9, 6.7-7.8		3.8	DRL 7min
	6		9.8-14.0, 10.3-12.7, 12.2-12.8			RAN 9.8
	7		13.9-21.8, CLS, 1.8-12.38			REC 4.1
	8		9.6, 7.8-9.8, 10.7-12.2, 12.8			LOSS 0.5
	9		13.9 BLN 0.0-0.8, 8.1-			UNACL 0.5
	10		8.9, 9.1-9.6, 14.5-15.0, 15.8			DEP 4.8 TIDEP 9.6
	11		-16.1, 19.3-20.9, 21.0-21.3			
	12		CLS/SLT 0.8-1.8, 1.2-3.8,		2	PULL #2
	13		20.4-21.0 BLN PWS ~0.1			START 1:17
	14		ORLESS 1.6-3.8, 5.0/SLT		7.8	END 1:25
	15		5.0-5.9, 6.7-7.8, 9.8			TIME 8min
	16		-10.0, SS. GR. U.Fg., M.H.			DRL 8min
	17		SLT (5.9-6.7) + (10.0-10.3)		3	RAN 5.1
	18		BLN PWS ~0.1 w/CL COATING			REC 5.2
	19		7.8-9.8, 10.7-12.9, 12.8-12.9			LOSS 0.1
	20		FRAC 13.7-14.3, 15.0-15.8		11.9	UNACL 0.1
			(CONT)			DEP 9.9 TIDEP 9.8
					4	PULL #3
						START 1:38
						END 1:47
						TIME 9min
						DRL 9min
						RAN 3.6
						REC 3.6
						LOSS 0.1
						UNACL 0.1
						DEP 13.5 TIDEP 13.9
					5	PULL #4
						START 1:55
						END 2:03
						TIME 8min
						DRL 8min
						RAN 9.9
						REC 2.8
						LOSS 0.9
						UNACL 0.9
						DEP 17.9
					6	PULL #5
						START 2:13
						END 2:20
						TIME 6min
						DRL 6min

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT **GALLIPOLIS Lock + Dam** HOLE NO. **R-79/2**

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No.	
PROJECT				497.6	R-79/2	
GALLIPOLIS LOCK+DAM				INSTALLATION	ORH-LD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT KLS			PULL #5
975.1	21		CL/SCAM 18.9-18.5 BKN		6	RAN 4.5 REC 4.8 LOSS 0 UNREC 0 TIDEP 21.3
	22		CLS			DEP 22.4
	23		GR, S, SH, GRADATIONAL		22.9	PULL #6
973.0	24		W/SLK @ Top + ICL Bottom SLK @ Bottom		7	START 12:37 END 2:13 TIME 6min DEL 6min RAN 2.5 REC 2.8 LOSS 0 UNREC 0 TIDEP 24.1
	25		ICL			DEP 25.9
	26		R-BR, S, SH, BKN, NUM SLK		26.1	PULL #7
	27		ALL MOTTERED W/SH-FINE		8	START 2:57 END 3:10 TIME 13min DEL 13min RAN 4.0 REC 5.1 LOSS 0 UNREC 0 DEP + TIDEP 29.2
	28		SCURPELY BKN 27.0-27.7			PULL #8
	29		28.6-29.2		29.2	START 7:23 END 7:55 TIME 32min DEL 32min RAN 3.9 REC 3.0 LOSS 0 UNREC 0 DEP 30.3
969.0	30				30.7	PULL #9
	31				10	START 7:45 END 7:51 TIME 6min DEL 6min RAN 2.1 REC 1.5 LOSS 0 UNREC 0 TIDEP 33.7
	32				33.7	DEP 33.9
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					
Bottom Hole						

ENG FORM 1836-A (REV 1110-1-1801)

GPO 1960 OF-525-603

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. R-79/2



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		02D		02H-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GRAND POLIS LOCKT DAM		10. SIZE AND TYPE OF BIT		4 1/2 IN	
3. DRILLING AGENCY		MOND M-1 STA 15174 B		11. DAY OF ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOD. 10	
5. NAME OF DRILLER		DAVE HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		M-111		14. TOTAL NUMBER CORE BOXES		N/A N/A	
7. THICKNESS OF OVERBURDEN		0 496.2		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.2		16. DATE HOLE		STARTED 12/12/88 COMPLETED 12/12/88	
9. TOTAL DEPTH OF HOLE		458.0		17. ELEVATION TOP OF HOLE		496.2	
				18. TOTAL CORE RECOVERY FOR BORING		38.2 %	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.2	1		SANDSTONE			PULL #1	
	2		SE-LTGR. M.H. F-GG.			START 1:00	
	3		GRADATION - COARSE			END 1:12	
	4		W/DPTH			TIME 12min	
	5		MIC. H2O & 99.5			DRL 12min	
	6		SA STAINERS AND FRAG			PAN 4.3	
	7		455.9-488.3			REC 4.3	
	8					LOSS 0	
	9					UNAC 0	
	10					D-27.9	
	11					PULL #2	
	12					START 1:27	
	13					END 1:37	
	14					TIME 10min	
	15					DRL 10min	
	16					PAN 3.5	
	17					REC 3.6	
	18					LOSS 0.1	
	19					UNAC 0.1	
	20					D-27.9	
	21					PULL #3	
	22					START 1:57	
	23					END 2:12	
	24					TIME 15min	
	25					DRL 15min	
	26					PAN 2.5	
	27					REC 2.8	
	28					LOSS 0	
	29					UNAC 0	
	30					D-27.9	
	31					PULL #4	
	32					START 2:28	
	33					END 2:42	
	34					TIME 14min	
	35					DRL 14min	
	36					PAN 3.3	
	37					REC 3.1	
	38					LOSS 0	
	39					UNAC 0	
	40					D-27.9	
	41					PULL #5	
	42					START 2:57	
	43					END 3:09	
	44					TIME 12min	
	45					DRL 12min	
	46					PAN 5.0	
	47					REC 5.0	
	48					LOSS 0	
	49					UNAC 0	
	50					D-27.9	
	51					PULL #6	
	52					START 3:17	
	53					END 3:30	
	54					TIME 12min	
	55					DRL 12min	
	56					PAN 5.0	
	57					REC 5.0	
	58					LOSS 0	
	59					UNAC 0	
	60					D-27.9	
	61					PULL #7	
	62					START 3:47	
	63					END 4:00	
	64					TIME 12min	
	65					DRL 12min	
	66					PAN 5.0	
	67					REC 5.0	
	68					LOSS 0	
	69					UNAC 0	
	70					D-27.9	
	71					PULL #8	
	72					START 4:17	
	73					END 4:30	
	74					TIME 12min	
	75					DRL 12min	
	76					PAN 5.0	
	77					REC 5.0	
	78					LOSS 0	
	79					UNAC 0	
	80					D-27.9	
	81					PULL #9	
	82					START 4:47	
	83					END 5:00	
	84					TIME 12min	
	85					DRL 12min	
	86					PAN 5.0	
	87					REC 5.0	
	88					LOSS 0	
	89					UNAC 0	
	90					D-27.9	
	91					PULL #10	
	92					START 5:17	
	93					END 5:30	
	94					TIME 12min	
	95					DRL 12min	
	96					PAN 5.0	
	97					REC 5.0	
	98					LOSS 0	
	99					UNAC 0	
	100					D-27.9	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GRILLIPOLIS LOCKT DAM HOLE NO. M-111

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			496.2		M-111	
GALLIPOLIS LOCK + DAM			INSTALLATION		SHEET 2	
			DPH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #6
	21				20.7	START 7:58
	22		Sourerly micch BKN			END 8:50
	23		468.4 - 468.1, micch		7	TIME 32min
	24		Chipped @ 468.1, 467.6			DEL 32min
	25		467.1, 466.1, sh stringers		29.9	PAN 9.0
	26		AND Flags 467.3-463.7			REL 9.6
	27				8	LOSS 8
	28				27.8	UNACL 0
	29					DEPART
	30					PULL #7
	31				9	START 8:59
	32				31.3	END 9:18
	33					TIME 29min
	34					DEL 29min
	35					PAN 10.2
	36					REL 10.1
	37				10	LOSS 6.1
	38				39.9	UNACL 01
458.0	38		BOTTOM HOLE		39.2	DEPART
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JAN 67

(NR 1110-1-1801)

GPO 1990 OF - 828 - 603

PROJECT  
GALLIPOLIS LOCK + DAM

HOLE NO.  
M-111

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT <b>GALLIPOLIS Lock + DAM</b>		ORD		ORD-LD		M-112	
2. LOCATION (Coordinates or Station) <b>STN 15+32.8</b>				10. SIZE AND TYPE OF BIT <b>4X5 1/2</b>		SHEET 1 OF 2 SHEETS	
3. DRILLING AGENCY <b>W. G. JAGUES</b>				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>M-112</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
5. NAME OF DRILLER <b>WAYNE TICE</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>11</b>		UNDISTURBED <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>0 496.7</b>				15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>37.7</b>				16. DATE HOLE STARTED <b>12/13/88</b> COMPLETED <b>12/13/88</b>			
9. TOTAL DEPTH OF HOLE <b>459.0</b>				17. ELEVATION TOP OF HOLE <b>496.7</b>			
				18. TOTAL CORE RECOVERY FOR BORING <b>37.8</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.7	1		SANDSTONE SR - LTGR, M-H, F-CG.			PULL #1 START 9:17 END 9:30 TIME 13 MIN DRL 13 MIN RAN 4.8 REL 4.8 LOSS 0 UNACQ 0 DEP 4.8	
	2		OCC. MIC, GRADATIONAL		1		
	3		CORES - w/ depth, OCC Y-LD		3.5		
	4		NUM MIC BD PMS, ABOVE				
	5		492.6, Fc STAINED 492.7-496.5		2	PULL #2 START 9:35 END 9:47 TIME 12 MIN DRL 12 MIN RAN 4.2 REL 4.0 LOSS 0.2 UNACQ 0.2 DEP 9.0	
	6		OCC SHALE FRAG 6-10cm		7.0		
	7		486.4				
	8				3	PULL #3 START 10:00 END 10:14 TIME 14 MIN DRL 14 MIN RAN 5.0 REL 5.0 LOSS 0 UNACQ 0 DEP 19.0	
	9				10.4		
485.7	11		SLT SR - GRGR, S - M-H,				
	12		GRADATIONAL w/ LG W TOP TO		4		
	13		SC @ Bottom, severely		14.0	PULL #4 START 10:35 END 10:41 TIME 6 MIN DRL 6 MIN RAN 1.8 REL 1.9 LOSS 0 UNACQ 0 DEP 15.9	
	14		BKN 485.7, 484.3 483.7-482.1		5		
	15		MIP, PN 30' W/SLK 484.0-483.9-482.1				
	16		below 481.7, Fg. SS 480.9-478.9		6		
478.8	18		SANDSTONE		(CONT)		
	19		(CONT)			PULL #5 START	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT **GALLIPOLIS Lock + DAM** HOLE NO. **M-112**



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.7		Hole No. <u>AT-1/2</u>	
PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>			INSTALLATION <u>ORH-CD</u>		SHEET <u>2</u> OF <u>2</u> SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21		GR - LT GR, M-H, F-MG		24.1	START 11:35
	22		MIC. & BD, SPATIALLY			END 11:50
	23		CONTACT W/ UPPER SLT		7	TIME 23 min
	24		PARTIALLY LT. FE STAINED			DEL 23 min
	25		496.6, 1E.F. - SAT 469.5 to			RAW 9.5
	26		468.5, SLT. S-AN, 463.5-			REC 9.5
	27		463.9			LOSS 0
	28				29.9	UNAC 0
	29					DEP 25.9
	30				8	PULL #6
	31					START 1:00
	32					END 1:20
	33				28.2	TIME 20 min
	34					DEL 20 min
	35					RAW 9.8
	36					REC 9.7
	37				9	LOSS 0
	38					UNAC 0
	39				31.8	
	40					
	41				10	
	42					
	43				35.1	DEP 35.1
	44					PULL #7
	45					START 1:40
	46				11	END 1:51
	47					TIME 11 min
	48				37.8	DEL 11 min
	49					RAW 2.8
	50					REC 2.9
	51					LOSS 0
	52					UNAC 0
	53					DEP 38.0
	54					
458.9	55		22-1400' HOLE			

ENG FORM 1836-A

(NR 1210-1-1801)

GPO 1980 OF - 828-803

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

AT 1/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
PROJECT		OED		OEH-D		SHEET 1 OF 2 SHEETS	
1. PROJECT		2. LOCATION (Coordinate or Station)		10. SIZE AND TYPE OF BIT		11. DAY OF ELEVATION SHOWN (YES or NO)	
GALLIPOLIS LOCK & DAM		MONO M-2 STA 15+37		4.5X6		M.S.L.	
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
W. B. JACOBS		M-2/1		B-53 MOBILE		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
DAVE HADDER		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		11		N/A	
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
0 496.4		37.5		STARTED 12/13/88 COMPLETED 12/13/88		496.9	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR		%	
458.9		458.9		JMD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.4	1		SANDSTONE			PULL #1	
	2		GR-LTGR, M.H. F-C.G.			START 10:17	
	3		OCC. MIC, INT. PL. L.F.			END 10:30	
	4		MECH CHIPPING 496.7, 495.1			TIME 13 min	
	5					1 DRL 13 min	
	6					RAN 7.2	
	7					REC 4.2	
	8					LOSS 0	
	9				3.6	UNAC 0	
	10					DEP 4.2 TIDE 4.1	
	11					PULL #2	
	12					START 10:47	
	13					END 10:56	
	14					TIME 9 min	
	15					DRL 9 min	
	16					RAN 4.5	
	17				7.2	REC 4.7	
	18					LOSS 0	
	19					UNAC 0	
487.9	20				3	DEP 8.7 TIDE 8.6	
	21					PULL #3	
	22					START 11:10	
	23					END 11:26	
	24					TIME 4 min	
	25					DRL 10 min	
	26				10.5	RAN 2.2	
	27					REC 2.2	
	28					LOSS 0 UNAC 0	
485.3	29					PULL #4	
	30					START 12:26	
	31					END 12:45	
	32					TIME 14 min	
	33					DRL 14 min	
	34					RAN 2.9 UNAC 0	
	35				13.8	REC 3.0	
	36					LOSS 0 TIDE 13.7	
	37					DEP 13.9	
	38					PULL #5	
	39					START 1:50	
	40					END 2:00	
	41					TIME 10 min	
	42					DRL 10 min	
	43					RAN 1.5	
	44					REC 1.5	
	45					LOSS 0	
479.6	46				17.0	UNAC 0	
	47					PULL #6	
	48					START 1:30	
	49					END 2:52	
	50					TIME 32 min	
	51					DRL 32 min	
	52					(CONT)	
	53					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-2/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
BALLIAPOLIS LOCK & DAM		OEH-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #6
	21				20.7	RAW 8.8 REL 8.8 LOSS 0 UNACCL 0
	22				7	
	23					
	24				29.4	TIDE 29.0 29.9
	25					PULL #7
	26				8	START 2:17 END 2:41 TIME 24min DRI 24min RAW 10.0 REL 10.0 LOSS 0 UNACCL 0
	27				28.1	
	28					
	29				9	
	30					
	31				31.8	
	32					
	33				10	
	34					TIDE 39.0 DCP 39.4
	35				35.1	PULL #8
	36					START 2:57 END 3:20 TIME 23min DRI 23min RAW 3.3 REL 3.3 LOSS 0.2 UNACCL 0.2
458.9	37		END OF HOLE		37.5	TIDE 39.2
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
AN 67

1836-A

(SR 1110-1-1801)

GPO 1980 OF-628-803

PROJECT

BALLIAPOLIS LOCK & DAM

HOLE NO.

M/2/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		ORD		OPH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <b>MONO M-2 STA 14784B</b>		10. SIZE AND TYPE OF BIT <b>4X5 1/2</b>		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACOBS</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOD/LE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>M-2/2</b>		14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>WAYNE TICE</b>		16. DATE HOLE		STARTED <b>12/13/88</b>		COMPLETED <b>12/14/88</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE <b>496.1</b>		18. TOTAL CORE RECOVERY FOR BORING <b>36.1</b>		19. SIGNATURE OF INSPECTOR <b>JMD</b>	
7. THICKNESS OF OVERBURDEN <b>0 496.1</b>		8. DEPTH DRILLED INTO ROCK <b>36.9</b>		9. TOTAL DEPTH OF HOLE <b>459.2</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.1			SANDSTONE			PULL #1	
495.5			GR, M-H, F.G.			START 2.51 END 3.00 TIME 9min DRL 9min RAN 3.7 REC 3.7 LOSS 0 UNACCLD	
	1		SLs		1		
	2		GR, S-M.H, SA, SA @				
	3		493.9-494.2, SCURRELY MECH				
492.3			BKN SH 492.4-492.3		3.7	DEP 3.7	
	4		SANDSTONE			PULL #2	
	5		LT.GR, M.H, M.C.G., OCC			START 7.10 END 7.35 TIME 25min DRL 25min RAN 5.0 REC 5.0 LOSS 0 UNACCLD	
	6		SH. FRAG, + STRINGERS		2		
	7		F.G. 492.3-494.8, 486.5-486.8		7.3	DEP 8.7	
	8		MECH BKN 487.1-487.3, SH				
486.8			SCAM 487.0-486.9		3	PULL #3	
	10		CLS			START 8.13 END 8.35 TIME 22min DRL 22min RAN 4.5 REC 4.1 LOSS 0.4 UNACCLD DEP 13.2	
484.1			LT.GR. S., MOTTLED, R-BR GR, GN. @ 485.6-484.7, ANG. PM 20° W/SLK 486.8-486.7		10.8		
	13		SLs		4		
	14		GR-GN, GR, S-M.H.			PULL #4	
	15		GRADATIONAL w/sh @ Top-		14.7	START 9.41 END 10.06 TIME 25min DRL 25min RAN 2.7 REC 2.7 LOSS 0 UNACCLD	
	16		SA @ BOTTOM, BKN PMS 0.2		5	DEP 15.9	
	17		482.9-481.0, SA BKN below				
478.5			481.0, F.G. SS 480.2-478.3		18.2		
	18		SANDSTONE			PULL #5	
	19		GR-LT.GR, M.H, F-M.G.		6	START 10.15 END 10.44	
	20		(CONT)		(CONT)		

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MAR 71 (TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
M-2/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS Lock + DAM			ORH-CD		Z	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			PULL #5
	21		mic, OCC X-CD, GRADATIONAL		6	TIME 29min
	22		CONTACT w/ UPPER SLT		21.8	DRL 29min
	23		THIN INTERBEDD SLT			RAN 8.7
	24		49.10-49.7			REC 8.7
	25				7	LOSS 0
	26					UNACCB
	27				25.9	PULL #6
	28					START 11:01
	29				8	END 1:30
	30					TIME 29min
	31					DRL 29min
	32					RAN 10.0
	33				29.2	REC 10.0
	34					LOSS 0
	35					UNACCB
	36		BOTTOM HOLE		9	
459.2	37				32.8	
	38				10	DEP 34.6
	39					PULL #7
	40				36.1	START 12:20
	41					END 12:30
	42					TIME 10min
	43					DEP 36.9
	44					DRL 10min
						RAN 2.3
						REC 2.3
						LOSS 0
						UNACCB

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF-625-603

PROJECT

GALLIPOLIS Lock + DAM

HOLE NO.

m-z/2

DRILLING LOG		DIVISION		INSTALLATION		Note No.	
1. PROJECT		ORD		ORH-CP		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS Lock + Dam		10. SIZE AND TYPE OF BIT		4 1/2" V	
3. DRILLING AGENCY		W. L. JACQUES		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-3/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		WAYNE TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 499.5		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		35.6		16. DATE HOLE		STARTED 12/15/88 COMPLETED 12/15/88	
9. TOTAL DEPTH OF HOLE		458.9		17. ELEVATION TOP OF HOLE		499.5	
				18. TOTAL CORE RECOVERY FOR BORING		35.5	
				19. SIGNATURE OF INSPECTOR		JMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
499.5	1		SANDSTONE			PULL #1
	2		GR-LTGR, M-H, F-Cg.			START 7.45
	3		Cg. w/occl sh frag +			END 7.53
	4		STRINGERS 492.0 - 489.9			TIME 8min
	5		Mic below 489.5			DRL 8min
489.0	6					RAN 5.0
	7					REC 5.0
	8					LOSS 0
	9					UNACCL 0
	10					DEP 5.0
483.7	11		ICL			PULL #2
	12		R.B.R., S, MOTTLED w/frag			START 8.10
	13		SN CL, screechy BKN			END 8.32
	14		483.7-483.9, screechy mech			TIME 22min
	15		BKN 485.6-485.3			DRL 22min
	16					RAN 3.9
	17					REC 3.8
	18					LOSS 0.1
	19					UNACCL 0.1 DEP 8.9
	20					PULL #3
	21		SLS			START 8.53
	22		GR-SNGR 15-M.H, gran/lon			END 9.12
	23		w/sh @ Top - sg @ Bottom			TIME 19min
	24		ang PN ~20° @ 483.7			DRL 19min
	25		ANGPN W/SK 483.3-483.2			RAN 3.6
	26		sg below 481.1			REC 3.6
	27					LOSS 0
	28					UNACCL 0 DEP 12.5
	29					PULL #4
	30		SANDSTONE			START 9.31
	31		GR-LTGR, M.H. F-Mg.			END 9.47
	32		Mic, GRADATIONAL CONTACT			TIME 16min
	33		w/upper SLS, mech			DRL 16min
	34					RAN 7.1
	35					REC 7.1
	36					LOSS 0
	37					UNACCL 0
	38					DEP 19.6
	39					PULL #5
	40					

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PROJECT GALLIPOLIS Lock + Dam HOLE NO. M-3/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 494.5		Hole No. M-31	
PROJECT GALLIPOLIS LOCK + DAM			INSTALLATION ORH-10		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21		Chipped 477.0 - 476.7		21.5	START 10:05
	22		Fig. SLT ABOVE 476.5			END 10:25
	23		SLT 473.8 - 472.5		7	TIME 20min
	24		Thin sh frags + stringers			DRL 20min
	25		470.6 - 469.6, LTR nod		24.7	RAN 10.0
	26		w/2.2% cem.		8	REC 10.0
	27					LOSS 0
	28					UNACCLD
	29				28.9	
	30					DEP 29.6
	31				9	PULL #6
	32					START 10:42
	33				32.9	END 11:04
	34					TIME 22min
	35				10	DRL 22min
	36					RAN 5.5
	37					REC 5.5
	38					LOSS 0
	39					UNACCLD
459.0	40		bottom 10' E		35.5	
	41					DEP 35.5
	42					
	43					
	44					

ENG FORM 1836-A (SR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT  
GALLIPOLIS LOCK + DAM

HOLE NO.  
M-31

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
1. PROJECT		ORD		ORH-CD		14-312	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		SHEET 1	
3. DRILLING AGENCY		W. G. JACOBS		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		OF 2 SHEETS	
4. HOLE NO. (As shown on drawing title and file number)		M-3/2		12. MANUFACTURER'S DESIGNATION OF DRILL		M.S.L.	
5. NAME OF DRILLER		A. TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 493.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.9		16. DATE HOLE		STARTED 1/11/89 COMPLETED 1/11/89	
9. TOTAL DEPTH OF HOLE		434.0		17. ELEVATION TOP OF HOLE		493.9	
				18. TOTAL CORE RECOVERY FOR BORING		39.5	
				19. SIGNATURE OF INSPECTOR		JMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
493.9	1		CLS			PULL #1
	2		shy., S. m.h., m.-dk. gr.		Box 1	START 13.00 END 13.11 TIME 11 min DRL 11 min RAN 4.4 REC 4.4 LOSS 0 UNACC 0
490.2	3				3.7	
	4		SHUDSTONE			DEP 4.4
	5		m.-c.g., m.h., m. gr.		Box 2	PULL #2
	6				7.1	START 13.15 END 13.46 TIME 31.0 min DRL 31. min RAN 14.4 REC 10.0 LOSS 0 UNACC 0
485.9	7					
	8		SLS/clay		Box 3	
	9		S.-m.h., m. gr. bkn-		10.7	
	10		8.0 - 9.4 (mech); h.a.)			
	11		SLK. PTg. 10. - 10.4		Box 4	
	12		bkn (mech) 13.6 - 14.6		14.4	DEP 14.4
	13					
479.3	14					
	15		SLS/ss		Box 5	PULL #3
	16		m. gr. m.h. w/ occ shy		17.9	START 13.59 END 14.25 TIME 26.0 DRL 26.0 RAN 24.4 REC 10.0
	17		PTg. in shy AREAS		Box 6	
	18					
	19					
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. M-3/2



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS/SS		Box 6	PULL #3
	21		M.G.R. M.H. W/occ sh			LOSS 0
	23		PTG. in shy AREAS		Box 7	UNACCL 0
	24					DEP 24.4
	25				25.1	PULL #4
	26				Box 8	START 14:43
	27					END 15:00
	28					TIME 27min
	29					DRL 27min
	30					RAN 34.5
	31				28.7	REC 10.1
	32					LOSS 0
	33					UNACCL 0
	34				Box 9	
	35					DEP 34.5
	36				Box 10	
	37					
	38					
	39					
454.4			BOTTOM HOLE.	39.5		
	40					
	41					
	42					

ENG FORM 1836-A  
JUN 67

SFO: 1968 OF-229-343

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
M-3/2

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
1. PROJECT 6ALLIPOLIS LOCK & DAM		ORD		OEH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) MDNO M-9 STA 19+26.8		10. SIZE AND TYPE OF BIT 4 1/2"		11. DAY OF ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W. G. JACQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A			
4. HOLE NO. (As shown on drawing title and file number) M-9/1		14. TOTAL NUMBER CORE BOXES 13		15. ELEVATION GROUND WATER N/A			
5. NAME OF DRILLER WAYNE TICE		16. DATE HOLE STARTED 12/15/88 COMPLETED 12/15/88		17. ELEVATION TOP OF HOLE 493.0			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		18. TOTAL CORE RECOVERY FOR BORING 43.5		19. SIGNATURE OF INSPECTOR JMN			
7. THICKNESS OF OVERBURDEN 0 493.0		8. DEPTH DRILLED INTO ROCK 43.5		9. TOTAL DEPTH OF HOLE 449.1			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
493	1		SANDSTONE LTGR, M-H M-CG, Num SH FANG + STRINGS 492.7			PULL #1 START 1:08 END 1:23 TIME 15min DRL 15min RAW 3.0 REC 2.6 LOSS 0.4	
490.0	2		NUM MIC B/D PHS 490.7-490.6		1	UNREC'D DEP 3.0	
	3		ICL R-BL, S, MOTHED W/GR -GNGR, MCH BLN 490.0-488.9, SCU-RELY 6K 1/2 488.3-488.0, 487.9 487.0, 483.8-485.7, ANG PN W/LK 488.7-488.6 488.5-488.5 487.6-487.5		3.7	PULL #2 START 1:35 END 1:45 TIME 10min DRL 10min RAW 3.0 REC 5.0 LOSS 8 UNREC'D	
485.7	4		SLS GR-GNGR, S-MH GRADATIONAL W/LK TOP TO SA @ BOTTOM, SA B/LK, 484.1		2	DEP 8.0	
	5				2.6		
	6				3	PULL #3 START 1:51 END 2:16 TIME 25min DRL 23min RAW 9.5 REC 9.6 LOSS 0 UNREC'D	
481.2	7		SANDSTONE GR-LTGR, M-H, F-AIS, OCC MIC, GRADATIONAL CONTACT, W/UPPER SLT, OCC X-BD, HIGH ANG FRAC 480.9-480.2 SLS (GR, S) 478.5-478.0 480.1-478.6 (CONST)		11.1		
	8				4		
	9				14.9		
	10				5	DEP 17.6	
	11				17.2	PULL #4 START 2:32 END 2:53 TIME 21min (CONT)	
	12				6	(CONT)	
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT 6ALLIPOLIS LOCK & DAM HOLE NO. M-9/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 493.0	Hole No. M-4/1		
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
	21		HIGH AVG. FPA 975.2-975.8		21.6	DRL 2/min RAN 6.5 REC 6.5 LOSS 0 UNACQ
	22		SAME STAM 462.7-462.7		7	
	23		NUM MIC 60 PN 464.0			
	24		463.9, 460.1-460.0			DEP 24.1
	25		458.0-457.9, 456.3-456.2		25.0	PULL #5
	26					START 3:09 END 3:34 TIME 25 min DRL 25 min RAN 7.6 REC 9.7 LOSS 0 UNACQ
	27				8	
	28				28.7	
	29					
	30				9	
	31					
	32				32.3	
	33					
	34				10	DEP 33.8
	35					PULL #6
	36				35.7	START 3:54 END 4:19 TIME 20 min DRL 20 min RAN 10.1 REC 10.1 LOSS 0 UNACQ
	37				11	
	38					
	39				39.3	
	40					
	41				12	
	42					
	43				43.1	
499.0	44		Bottom of Hole		13 43.9	DEP 43.9

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-4/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. M-412	
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		SHEET 1 OF 3 SHEETS	
GALLIPOLIS LOCK + DAM		M-4 STA 13+94.8		415.5 IN.			
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		11. DATUM FOR ELEVATION SHOWN (Type & Date)			
W. G. JACOBS		M-412		M.S.L.			
5. NAME OF DRILLER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		12. MANUFACTURER'S DESIGNATION OF DRILL			
DOWELL NORRIS		N/A		B-57 MOBILE			
6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER			
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		13		N/A			
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		17. ELEVATION TOP OF HOLE			
0 496.1		STARTED 11/11/89 COMPLETED 11/11/89		496.1			
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR			
47.7		47.7		JMD			
9. TOTAL DEPTH OF HOLE							
448.4							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		CLS m-dk. gr, s.-m.h., shy		Box 1	PULL #1 START 15:50 LOSS 0 END 16:05 UNAC 0 TIME 15 min DRL 15 min RAN 4.5 REC 4.5
493.1	3		SANDSTONE m.-c.g., m.h., m.gr.		Box 2	DEP 4.5 PULL #2 START 16:10 END 16:40 TIME 30 min DRL 30 min RAN 11.3 REC 6.8 LOSS 0 UNAC 0
489.7	6		CLS / ICL m.gr., s., ve. bkn 6.4-11.0		Box 3	DEP 11.3 PULL #3 START 17:10 END 17:25 TIME 15 min DRL 15 min RAN 19.8 REC 8.5 LOSS 0 UNAC 0
484.8	11		CLS / ICL m.gr., s., ve. bkn 6.4-11.0		Box 4	DEP 19.8 PULL #4 (CONT)
477.7	18		SS / SLS		Box 5	
	19		SS / SLS		Box 6	
	20		(CONT)		(CONT)	

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
M412

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Locks + DAM		ORH-CD		2		
OF 3 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SS/SLS		Box 6	PULL #4
	21		INTERbdd, m.h.,		21.5	START 17:45
	22		M.G.R., SS. - fig. sky			END 18:00
	23		MOSTLY SS. bclow 22.0		Box 7	TIME 15 min
	24					DRL 15 min
	25					RAN 29.9
	26					REC 10.1
	27					LOSS 0
	28					UNACC 0
	29				29.1	
	30					DEP 29.9
	31				Box 9	PULL #5
	32					START 18:25
	33				32.5	END 18:45
	34					TIME 20 min
	35					DRL 20 min
	36				Box 10	RAN 39.7
	37					REC 9.8
	38					LOSS 0
	39					UNACC 0
	40				36.0	
	41					
	42				Box 11	
	43					DEP 39.7
	44		(CONT)			PULL #6
					Box 12	START 19:25
						END 20:10
						TIME 45 min
					43.4	
					Box 13	
					(CONT)	(CONT)

ENG FORM 1836-A  
JUN 67

GPO: 1969 OP-229-843

PROJECT GALLIPOLIS Locks + DAM  
HOLE NO. M-4/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.1		Hole No. M-4/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-LD		SHEET 3 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SS/SLS			
	45		INTERBdd, M.H., M.G.R.		Box	PULL #6
	46		SS. - Pig. SLY. MOSTLY		13.	DRL 45 min
	47		SS. below 22.0			RAN 477
	47					REC 8.0
	47					LOSS 0
448.4	47					UNAC 0
	48		BOTTOM HOLE		477	DEP 47.7
	49					
	50					

ENG FORM 1836-A  
JAN 67

GPO: 1968 OF-325-242

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-4/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM		OPD		DEHCD			
2. LOCATION (Coordinates or Station) MEND M-5 STA 13+89.8				10. SIZE AND TYPE OF BIT 4 1/2" L		11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.	
3. DRILLING AGENCY W. G. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) 17-5/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 12		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE 12/16/88		STARTED 12/16/88	
7. THICKNESS OF OVERBURDEN 0 492.8				17. ELEVATION TOP OF HOLE 492.8		COMPLETED 12/16/88	
8. DEPTH DRILLED INTO ROCK 45.1				18. TOTAL CORE RECOVERY FOR BORING 43.3			
9. TOTAL DEPTH OF HOLE 457.7				19. SIGNATURE OF INSPECTOR JMM			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
492.8	1		SANDSTONE LTSE, M.H.-H, M, C.G. NUM SH FRAG. 4 STRAINERS			PULL #1 START 8:37 END 8:57 TIME 20 min DRL 20 min RAN 2.5 REC 2.5 LOSS 0 UNAC 0	
490.7	2		491.2-490.7		1	DEP 2.5	
	3		ICL R.B.R., S, MOTTLED W/FR + JN-SR MICL BKN 490.3-490.1		3.4	LOSS 0 UNAC 0	
488.7	4					PULL #2 START 9:06 END 9:13 TIME 7 min DRL 7 min RAN 2.6 REC 2.5 LOSS 0.1 UNAC 0.1	
	5		SLS SE-SAND, S-M.H.		2	DEP 5.1	
	6		FOUNDATION, W/SH @ TOP				
	7		-SA @ BOTTOM, SCURRELY		7.5		
	8		BEN 487.7-487.5, NUM FRAG				
	9		20° 483.8-483.7		3	PULL #3 START 9:26 END 9:48 TIME 22 min DRL 22 min RAN 8.6 REC 7.9 LOSS 1.7 UNAC 1.7	
481.7	11				11.1	DEP 13.7	
	12		SANDSTONE JE-LTGR, M.H., M-F.		4		
	13		MIC, OCC X-B, SLT				
	14		479.9-479.8, 477.9-477.3		19.7	PULL #4 START 10:09 END 10:23 TIME 19 min DRL 19 min RAN 7.9 REC 9.9 LOSS 0 UNAC 0	
	15		OCC-SH STRAINERS 475.5-		5		
	16		476.2, 476.7, UNAC FRAC				
	17		459.9-459.1, CALCITE		18.1		
	18		FILLED CPINS 456.5-476.2		6	(CONT)	
	19		CORE DIA LOSS 459.0			(CONT)	
	20		CONT				

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT

GALLIPOLIS LOCK & DAM M-5/1

HOLE NO.





DRILLING LOG		DIVISION	INSTALLATION		SHEET	
1. PROJECT GALLIPOLIS LOCK DAM		ORD	DRH-CD		11-711	
2. LOCATION (Coordinate or Station) MONO M-5 STA 13+48 B			10. SIZE AND TYPE OF BIT 4 X 5.5"		OF 3 SHEETS	
3. DRILLING AGENCY W. G. JACOBS			11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) M-5/2			12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
5. NAME OF DRILLER WAYNE TICE			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED UNDISTURBED N/A N/A			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES 13			
7. THICKNESS OF OVERBURDEN 494.8			15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 46.8			16. DATE HOLE STARTED 11/12/88 COMPLETED 11/12/88			
9. TOTAL DEPTH OF HOLE 448.0			17. ELEVATION TOP OF HOLE 494.8			
			18. TOTAL CORE RECOVERY FOR BORING 76.8			
			19. SIGNATURE OF INSPECTOR ZMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
494.8			SANDSTONE			PULL #1
494.1			M.C.G., M.H., M.G. 0.7-1.2			START 9:25
	1		SANDSTONE		Box 1	END 9:33
	2		Sly; fig. M.H., M.G.R			TIME 8 min
	3		W/LK gr. sly lam			DEL 8 min
491.2						RAN 4.7
						REC 4.2
						LOSS 0.5
					3.6	UNACCS
489.8			SANDSTONE		Box 2	DED + TIDEP 4.7
	4		M. C.G. M.H., M.G. 2.5-9.4			PULL #2
	5		5.0-5.2			START 9:45
	6		SANDSTONE			END 9:59
	7		fig. M.H., sly, M.G.R		7.2	TIME 14 min
	8		CLS. LEN W/IRR. ANG			DEL 14 min
	9		CONTACT @ 10.3-11.4		Box 3	RAN
	10		O. HA - UCR, IRR. FRAC			REC 8.3
	11		13.0-14.0: 1.0 LC BETWN			LOSS 1.0
	12		4.7' 14.0			UNACC 1.0
480.8					10.9	TIDEP 14.0
	13					DEP 14.6
	14		CLS/SS			PULL #3
	15		INTERBEDD., SS. fig		Box 5	START 10:25
	16		0.1 S.G.R. CLS LENS			END 10:37
	17		17.4 BKN 17.5-17.7			TIME 12 min
477.1					17.7	DEL 12 min
	18		SANDSTONE		Box 6	RAN
	19					REC 10.0
	20					LOSS 0
			(CONT)		(CONT)	UNACC 0
ENG FORM 1836 MAR 71			PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)		PROJECT GALLIPOLIS LOCK DAM	
					HOLE NO. M-5/2	

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				494.8		M-5/2	
GALLIPOLIS LOCK DAM				INSTALLATION		SHEET 2 OF 3 SHEETS	
				ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SANDSTONE		Box 6	PULL #3	
	21				21.4		
	22		SLY, R. g, m. h, m. gr		Box 7		
	23		0.1 CLS LENS @ 20.5				
	24		+5° SMOOTH, mic. PTg			T/DEP 23.6	
	25		@ 26.0			DEP - 24.0	
	26		OCC 4Kgr SLY LAM			PULL #4	
	27				26.0	START 11:06	
	28				Box 8	END 11:18	
	29					TIME 12 min	
	30					DRL 12 min	
	31					RAN	
	32					REL 10.1	
	33					LOSS 0	
	34				29.4	UNHCL 0	
	35				Box 9		
	36				32.9		
	37				Box 10	DEP 34.0 T/DEP 32.9	
	38					PULL #5	
	39				36.3	START 12:25	
	40				Box 11	END 12:50	
	41					TIME 25 min	
	42					DRL 25 min	
	43					RAN	
	44					REL 10.0	
						LOSS 0	
					20.1	UNHCL 0	
					Box 12		
					43.8	(CONT)	

ENG FORM 1836-A  
JAN 67

GPO: 1969 OF-329-343

PROJECT GALLIPOLIS LOCK DAM  
HOLE NO. M-5/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		11-5/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	44		SANDSTONE			
	45				Box 13	DEP 44.3 F DEP 44.1 PULL #6 START 1:56 REC 2:7 END 2:34 LOSS 0 TIME 38min UNAC 0 DRL 38min RAN
448.0			Bottom Hole		44.8	DEP - 47.0 T/REF 9.0
	47					
	48					
	49					
	50					

ENG FORM 1836-A  
JUN 67

SPD: 1249 OF 329-243

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. 11-5/2

DRILLING LOG		DIVISION		INSTALLATION		Note No. 11-611	
PROJECT		OLD		ORH-10		SHEET 1	
LOCATION (Coordinates or Station)		M-6		STA 13+38.8		OF 2 SHEETS	
DRILLING AGENCY		W.G. JACOBS		MISL			
HOLE NO. (As shown on drawing title and file number)		M-6/1		B-57 MOBILE			
NAME OF DRILLER		WAYNE TICE		TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		TOTAL NUMBER CORE BOXES		13	
THICKNESS OF OVERBURDEN		0 495.8		ELEVATION GROUND WATER		N/A	
DEPTH DRILLED INTO ROCK		47.4		DATE HOLE		STARTED 12/16/88 COMPLETED 12/16/88	
TOTAL DEPTH OF HOLE		498.4		ELEVATION TOP OF HOLE		495.8	
				TOTAL CORE RECOVERY FOR BORING		47.4 %	
				SIGNATURE OF INSPECTOR		LMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
495.8	1		SANDSTONE			PULL #1	
	2		LT GR. MH-H, F-Cg.			START 1:35	
	3		BCC MIL, OCC THIN BN FRAG.			END 1:55	
	4		F-Hg. NODULE 490.3			TIME 20min	
	5		COARSE GRAINED W/CLW 490.3			DPL 20min	
490.9	6				3.8	CAN 4.9	
	7					REC 4.9	
	8					LOSS 0	
	9					UNAC 0	
	10					DPL 5.0 TIDP 9.9	
488.7	11		FCI		2	PULL #2	
	12		E-GR-S-UES, MOTTLED W/			START 2:21	
	13		SP-NGR. 488.7-488.3 BKN			END 2:34	
	14		488.3-487.9			TIME 13min	
	15					DPL 13min	
	16				7.2	CAN 3.0	
	17					REC 2.7	
	18					TIDP+DPL 7.9	
	19		SLT		3	PULL #3	
	20		SP-NGR., S.M.H			START 2:48	
	21		GRANITIC W/SLT			END 3:05	
	22		TOP - SLT LITHOLOGY			TIME 17min	
	23		W/SLT 488.6, BKN			DPL 17min	
	24		487.9-486.7 = G6 CLW 486.3		10.9	CAN 5.6	
	25		481.5 INTERBEDDING GRANITIC			REC 5.6	
	26		W/F. 55 482.3-481.1, BKN			LOSS 0	
	27		480.15-480.9, 479.9-480		4	UNAC 0	
479.6	28					DPL 13.7 TIDP 13.5	
	29					PULL #4	
	30					START 7:51	
	31					END 8:24	
	32					TIME 33min	
	33					DPL 33min	
	34					CAN 10.1	
	35					REC 10.1	
	36					LOSS 0	
	37				18.3	UNAC 0	
	38						
	39						
	40						
	41						
	42						
	43						
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ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK & DAM - M-6/1

HOLE NO.

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET Z	
GALLIPOLIS Lock & Dam			OBH-CP		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			PULL #4
	21		GR-179R, 11'-H, 11'		6	
	22		Fg, 1111, 518 4728-		22.1	
	23		477.2, SA 50015 476.6			
	24		476.1, 455.7-475.8		7	DEPT T/DEP 23.6
	25		475.5, 472.7, 462.6			PULL #5
	26		1111 1111, 644PNS		25.5	START 8:40
	27		459.1-453.8, 451.9,			END 9:09
	28		451.6, 450.0, BEN		8	TIME 29min
	29		452.5-452.5, FINE			DPL 29min
	30		454.8-454.2		8	RAN 10.0
	31					REI 10.0
	32				29.1	LOSS 0
	33					UNNCD 0
	34				9	
	35				32.5	
	36					T/DEP 32.9
	37				10	DEP 33.6
	38					PULL #6
	39				36.1	START 9:23
	40					END 9:45
	41					TIME 17min
	42					DPL 17min
	43					RAN 10.0
	44				11	REC 10.6
	45					LOSS 0
	46					UNNCD 0
	47				37.9	
	48					PULL #7
	49				12	START 10:00
	50					END 10:23
	51					TIME 23min
	52					DPL 23min
	53					RAN 3.8
	54					REC 3.8
	55				13	LOSS 0
	56					UNNCD 0
	57				43.6	
	58				43.6	DEPT T/DEP 47.9

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF - 626-603

PROJECT

GALLIPOLIS Lock & Dam

HOLE NO.

M-6/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
PROJECT		ORD		OPH-CD		11-612	
1. PROJECT		2. LOCATION (Coordinate or Station)		10. SIZE AND TYPE OF BIT		SHEET 1	
3. DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		12. MANUFACTURER'S DESIGNATION OF DRILL		OF 3 SHEETS	
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
5. NAME OF DRILLER		16. DATE HOLE		17. ELEVATION TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
6. DIRECTION OF HOLE		17. ELEVATION TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR	
7. THICKNESS OF OVERBURDEN		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR			
8. DEPTH DRILLED INTO ROCK		19. SIGNATURE OF INSPECTOR					
9. TOTAL DEPTH OF HOLE							
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.2	1		SANDSTONE			PULL #1	
	2		GR-LTGR, M.H-H, M-CG.			START 3:01	
	3		SH. SEAMS 496.0-495.9			END 3:19	
	4		495.8-495.6, 495.5-495.4			TIME 18min	
	5		BRK DWS SPACING 0.1			DRL 18min	
	6		462.2-495.1 NUM.			RAN 9.1	
	7		THIN SATCL STIPINGERS			REL 9.1	
	8		+ FRAGS 491.1-490.3			LOSS 0	
	9					UNREC	
	10					TDC 29.1	
485.9	11		SLS			D-2 0.5	
	12		GR-GN-GR, S-M-H, SHALEY			PULL #2	
	13		SCURRELY BKN W/FATTY			START 3:30	
	14		CL LTGR, 485.9-485.8			END 3:40	
	15		BKN CLS W/FATTY CL, LT			TIME 10min	
	16		GR. S., VES. 485.3-484.9			DRL 10min	
	17		BKN 483.0-482.6 W/ANYS			RAN 9.7	
	18		PN ~30°			REC 4.8	
481.2	19					LOSS 0	
	20					UNREC	
	21					TDC 28.8	
	22					PULL #3	
	23					START 3:54	
	24					END 4:04	
	25					TIME 10min	
	26					DRL 10min	
	27					RAN 2.5	
	28					REC 2.3	
	29					LOSS 0.1	
	30					UNREC 0.1	
	31					D-2 11.8	
	32					PULL #4	
	33					START 7:30	
	34					END 7:38	
	35					TIME 8min	
	36					DRL 8min	
	37					RAN 1.7	
	38					REC 1.7	
	39					LOSS 0	
	40					UNREC 0	
	41					PULL #5	
	42					START 8:00	
	43					END 8:18	
	44					TIME 18min	
	45					DRL 18min	
	46					RAN 5.0	
	47					REC 5.0	
	48					LOSS 0	
	49					UNREC 0	
	50					D-2 18.0	
	51					PULL #6	
	52					START 9:00	
	53					END 9:28	
	54					TIME 28min	
	55					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS LOCK & DAM 11-612

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.2	Hole No. M-6/2		
PROJECT Gallipolis Lock & Dam			INSTALLATION DRH-CD	SHEET 2 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #6
	21		GR-LT.GR, M. H. F. M.G.		21.0	DEL 28 min
	22		Mic, SLT-F.G. 972.9-978.9			RAW 9.9
	23		OCCL. PYR. 978.2-986.0		7	REL 10.0
	24		NUM. BANDS OF MIC			LOSS 2
	25		LOT PMS. 988.3, 997.9		28.8	UNACQ
	26				8	
	27					
	28					T/DSP 27.7
	29				28.9	DEP 28.0
	30				9	PULL #7
	31					START 9:50
	32					END 10:07
	33					TIME 17 min
	34					DRL 17 min
	35					RAW 10.5
	36				32.0	REL 9.6
	37					LOSS 8
	38					UNACQ
	39				10	
	40				35.7	
	41				11	T/DSP 32.3
	42					DEP 32.9
	43					PULL #8
	44				39.2	START 10:28
	45					END 10:40
	46					TIME 12 min
	47					DRL 12 min
	48				12	RAW 10.0
	49					REL 9.0
	50					LOSS 8
	51				42.7	UNACQ
	52				13	
	53		(CONT)			(CONT)

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

M-6/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
Gallipolis Lock + Dam		496.2 ORH-CD		M-612		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	44		SANDSTONE			PULL #8
	45				13	
	46				14.2	
	47					TIDE 47.6
	48				14	DEP 47.6
	49					PULL #9
497.3			FEATHER HOLE			START 11.15
	49				14.9	TIDE 49.9
	50					END 11.29
	51					TIME 13 min
	52					DEP 49.3
	53					DRL 13 min
						RAN 2.7
						REL 2.3
						LOSS 0
						UNAC 0

ENG FORM 1836-A  
JAN 47

(NR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT  
Gallipolis Lock + Dam

HOLE NO.  
M-612



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 415K			
2. LOCATION (Coordinate or Station) MWD M-7 STA 13+00.3				11. DAY FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W.G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-7/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <input checked="" type="checkbox"/> UNDISTURBED <input checked="" type="checkbox"/>			
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 12			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.5				16. DATE HOLE STARTED 12/17/88 COMPLETED 12/17/88			
8. DEPTH DRILLED INTO ROCK 42.7				17. ELEVATION TOP OF HOLE 496.5			
9. TOTAL DEPTH OF HOLE 453.8				18. TOTAL CORE RECOVERY FOR BORING 42.7			
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.5			SLS			PULL#1	
495.6			GR. S. Int. pbd/SS BENEATHS-142			START 11:05	
	1		SANDSTONE			END 11:25	
	2		GR-LT. GR. M.H-H., C9		1	TIME 20min	
	3		OCC sh stringers + frags			DPL 20min	
	4		491.8 - 492.7, Mg. 490.7 - 490.9 CL COOT PN @			RAN 5.0	
	5		490.7			REL 5.0	
				3.7		LOSS 0	
						UNACQ	
						DEPT 10.5.0	
490.9						PULL#2	
	6		ICL		2	START 12:09	
	7		R. BR. S, mottled w/GR-			END 12:39	
	8		GR. CL, GR. 490.9 - 490.5			TIME 25min	
	9		SCUPPLY BKW 490.8 - 490.9		7.9	DEL 25min	
			SCUPPLY MICH BKW w/			RAN 3.9	
			0.2 LOSS 487.8 - 487.3, ANG			REC 3.7	
			DN S ~ 30° w/SLK 489.8 - 489.7			LOSS 0.2	
			489.8 - 489.3, 489.2 - 489.1,		3	UNACQ 0.2	
			489.1 - 489.0 SLS MOD 488.0			DEPT 8.9	
486.3						PULL#3	
	11		SLS		10.9	START 12:50	
	12		GR - GN. GR., S-M.H.			END 12:57	
	13		SS GR. Mg., M.H. 486.1 -			TIME 7min	
	14		485.9 BKW 485.5 - 485.6			DEL 7min	
	15		ICL w/SLT mod SL/BKW			RAN 1.8	
	16		489.6 - 489.0 RED PILL			REC 1.5	
	17		486.1 - 489.0			LOSS 0	
	18					UNACQ	
478.2						PULL#4	
	19		SANDSTONE		4	START 1:12	
	20		CONT			END 1:18	
						TIME 6min	
						DPL 6min	
						RAN 3.3	
						REC 3.0	
						LOSS 0	
						UNACQ	
						DEPT 3.8	
						PULL#5	
						START 1:39	
						END 1:53	
						TIME 19min	
						DPL 19min	
						RAN 5.5	
						REC 5.5	
						LOSS 0	
						UNACQ	
						DEPT 15.3	
						PULL#6	

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-7/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS Lock & DAM		ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			PULL #6
	21		GR-LTGR, M.H, F.M.G.			START 2:08
	22		OCCL, MIC, OCC X-Bd			END 2:28
	23		SLT 976.5-976.0, SA, FRAG			TIME 20min
	24		475.7, B/W 475.9-475.5			DRL 20min
	25		NUM SA FRAG + STRINGERS			RAN 9.9
	26		465.6-465.2, white-nat.			REL 9.9
	27		COALINE 463.2-462.4			LOSS 0
	28		NUM MIC LCL/PWS 459.6			UNACCL 0
	29					DEPT 10-DEPT 2
	30					PULL #7
	31					START 2:49
	32					END 3:09
	33					TIME 20min
	34					DRL 20min
	35					RAN 10.1
	36					REL 10.1
	37					LOSS 0
	38					UNACCL 0
	39					DEP 35.3 T/D 235.1
	40					PULL #8
	41					START 3:23
	42					END 3:35
	43					TIME 12min
	44					DRL 12min
455.8			BOTTOM HOLE			RAN 3.4
						REL 3.4
						LOSS 0
						UNACCL 0
						DEPT 42.7

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1980 OF-628-503

PROJECT

GALLIPOLIS Lock & DAM

HOLE NO.

M-7/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>		ORD		DEHYD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <b>MONO M-7 STA 12154 B</b>				10. SIZE AND TYPE OF BIT <b>45H</b>		11. DATUM FOR ELEVATION SHOWN (FEET or MLL) <b>M.S.L.</b>	
3. DRILLING AGENCY <b>W.G. JAGUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>M-7/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVE HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>13</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>497.2</b>				16. DATE HOLE <b>12/20/88</b>		STARTED <b>12/21/88</b>	
8. DEPTH DRILLED INTO ROCK <b>45.2</b>				17. ELEVATION TOP OF HOLE <b>497.2</b>			
9. TOTAL DEPTH OF HOLE <b>452.0</b>				18. TOTAL CORE RECOVERY FOR BORING <b>44.7</b>			
				19. SIGNATURE OF INSPECTOR <b>JMN</b>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE			PULL #1
	1		GR-LTGR M.H.-H, M.CG.		1	START 12.41
	2		DECCMIC FCSTAINED		1.6	END 12.54
	3		DEL PN 4988			TIME 13.00
	4					DEL 13.10
	5					RAN 3.8
	6				2	REC 3.9
	7					LOSS 0
	8					UNRECD
	9					DEP 5.0
	10					PULL #2
	11				6.0	START 1.10
	12					END 1.15
	13					TIME 5 min
	14					DEL 5 min
	15					RAN 4.3
	16				3	REC 4.2
	17					LOSS 0
	18					UNRECD
	19					DEP 4.1
	20					PULL #3
	21				10.3	START 1.26
	22					END 1.33
	23					TIME 7 min
	24					DEL 7 min
	25				4	RAN 4.7
	26					REC 4.5
	27					LOSS 2
	28					UNRECD
	29					DEP 12.8
	30					PULL #4
	31				13.9	START 1.48
	32					END 2.05
	33					TIME 17 min
	34					DEL 17 min
	35				5	RAN 5.0
	36					REC 5.0
	37					LOSS 0
	38					UNRECD
	39				17.6	DEP 18.0
	40					PULL #5
	41				6	START 2.55
	42				(CONT)	END 3.11
	43					TIME 12 min
	44					DEL 12 min

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS LOCK + DAM M-7/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS LOCK & DAM			ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
479.8	20		SLS		6	PULL#5
	21		CLS LTGR. 479.5-479.3		20.9	RAN 9.3 REC 4.3 LOSS 0 UNPLD
	22		MECH BKN 479.2-478.0			TDEP 22.0 DEP 22.5
	23		SANDSTONE		7	PULL#6
	24		SR-LTGR, M.H, F-M.91			START 7.43 END 8.59 TIME 1.16 min DR 1.0 min RAN 9.9 REC 4.9 LOSS 0 UNPLD
	25		MIC, CCC Y-Bd, FEW		8	TDEP 26.8 TIDEP 26.7
	26		SM, PYR WOD 472.1-469.4			PULL#7
	27		LOW ANG. SA B'D ON 20° 466.1		20.9	START 8.13 END 8.33 TIME 20 min DEL 20 min RAN 9.9 REC 9.9 LOSS 0 UNPLD
	28		466.2 sec SM. SA FINE			
	29		465.6-464.6 NUM HOR		9	
	30		MIC B'D PWS 485.5-485.0			
	31		453.0-453.7 351 CEM.		31.4	
	32		LENSE 457.8-452.7			
	33				10	
	34				35.1	
	35					D-P 55.8
	36					DEP 36.2
	37				11	PULL#8
	38				38.6	START 8.55 END 9.25 TIME 30 min DR 30 min RAN 9.0 REC 8.5 LOSS 0 UNPLD
	39					
	40				12	
	41				40.2	
	42					
	43				13	
452.5	44	44.7	Bottom Hole 44.7		44.7	TDEP 43.7 DEP 44.5

ENG FORM  
JAN 67

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 525 - 503

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-7/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OPH-ED		1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		#15V2	
3. DRILLING AGENCY		MONO M-B STA 12+99B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-8/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B.-57 MDR/KE	
5. NAME OF DRILLER		DAVE HAPPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		12	
7. THICKNESS OF OVERBURDEN		Ø 496.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		42.8		16. DATE HOLE		STARTED 12/19/88 COMPLETED 12/19/88	
9. TOTAL DEPTH OF HOLE		454.0		17. ELEVATION TOP OF HOLE		496.8	
				18. TOTAL CORE RECOVERY FOR BORING		42.8	
				19. SIGNATURE OF INSPECTOR		JMN	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.8	1		SANDSTONE			PULL #1	
	2		GR-LTGR, M.H.-H, M-		1	START 7:37	
	3		L.G, TAINCL 5' MIN 499.8-			END 7:45	
	4		493.8, C. M.G INTERBEDDED			TIME 8min	
	5		482.9 + MCH BELOW, Fe			DRL 8min	
	6		SURFACE STAIN 496.8-496.5 MIN			RAN 5.0	
490.6	7		Sh FRAG + STRINGS 493.2-492.9		3.6	REL 5.0	
	8		ICL			LOSS 0	
	9		L.B.R, S, MOTHID GR-GNGR			UNAC 2	
	10		CL, OCC SLKS, LTGR ABOVE		2	DEP+T/DEP 5.0	
	11		489.2, FRAG PN 20° W/SLK			PULL #2	
	12		489.6-489.7, 489.0, 488.9			START 7:56	
	13		487.2 severely mch BLN		7.1	END 8:10	
	14		488.2-487.8 BLN 486.0			TIME 19min	
484.7	15		SLK			DRL 19min	
	16		GR-GN.GR, S-M.H.H,			RAN 3.6	
	17		GRADATIONAL W/SLK		3	REL 3.5	
	18		Top To SQ @ Bottom;			UNAC 0.1	
	19		REDN/1 488.3-482.9, SQ			DEP+T/DEP 8.6	
	20		Below 478.2		10.5	PULL #3	
	21					START 8:23	
	22					END 8:40	
	23					TIME 17min	
	24					DRL 17min	
	25					RAN 4.9	
	26				4	REL 4.9	
	27					LOSS 0	
	28					UNAC 0	
	29					DEP 13.6 TID-213.5	
	30				18.1	PULL #4	
	31					START 8:45	
	32					END 8:56	
	33					TIME 11min	
	34				5	DRL 11min	
	35					RAN 1.5	
	36					REL 1.5	
	37					LOSS 0	
	38				17.6	UNAC 0	
	39				6	PULL #5	
	40					START 9:14	
	41					END 9:35	
	42					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-8/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. <i>M 8/1</i>	
PROJECT <i>GALLIPOLIS LOCK &amp; DAM</i>				INSTALLATION <i>DRH-CD</i>		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
476.6	20		SLS		6	PULL #5	
	21		SANDSTONE		24.1	TIME 21min	
	22		3E-LT. GR / M.H. / M.-			DRL 21min	
	23		F. 9. / M.C. / FRYNTONAL		7	PAN 9.7	
	24		CONTACT w/upper SLS			REC 9.7	
	25		occ 1/3rd, SAT 475.9-480		24.7	LOSS 0	
	26		NUM THIN SLS LINGERS			UNAC 0	
	27		475.2-475.7		8	T/DEP 29.3	
	28					DEP 29.7	
	29					PULL #6	
	30					START 9.51	
	31					END 10.09	
	32					TIME 18min	
	33				29.3	DRL 18min	
	34					PAN 10.0	
	35					REC 10.0	
	36					LOSS 0	
	37					UNAC 0	
	38				9		
	39				32.1		
	40				10	DEP 39.7 T/DEP 39.6	
	41					PULL #7	
	42				35.7	START 10.26	
	43					END 10.46	
	44					TIME 20min	
	45					DRL 20min	
	46				11	PAN 10.0	
	47					REC 10.0	
	48					LOSS 0	
	49				29.5	UNAC 0	
459.0	42		Bottom Hole		12		
	43				42.8	DEP 42.8	
	44						

ENG FORM 1836-A (RR 1110-1-1801)

GPO 1980 OF - 628-503

PROJECT  
*GALLIPOLIS LOCK & DAM*

HOLE NO.  
*M-8/1*

Page 473

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.7		Hole No. M-8/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
479.8	20		SLT			PULL #5 DPL 20min RAN 4.6 REC 4.1 LOSS 0 JUNK 0
	21		SL Below 477.8		7	TID-PEZO
	22		SANDSTONE			DEP 22.6
	23		GR-LTGR, M.H. M.-Fg.			PULL #6 START 1.00 END 1.07 TIME 7min
	24		MIC. SLT-Fg 473.9	29.2		DPL 7min RAN 3.8 REC 3.7 LOSS 0 JUNK 0
	25		- 475.6, LOW ANTPNS 20°		8	DEP 25.9 TID-PEZ.8
	26		473.2, 475.3, 473.6, 465.9			PULL #7
	27		24P NOT 472.0, SL L-USE			START 1.30 END 1.50 TIME 20min
	28		471.5-471.9, SL STAINER	27.8		DPL 20min RAN 7.9 REC 9.9 LOSS 0 JUNK 0
	29		470.9, 462.2, NUM. MIC		9	
	30		EN IN (Bands) 469.5-469.2			
	31		457.8-459.4, 456.8-455.7	31.5		
	32		454.1-454.5, 452.9-452.7		10	
	33					
	34				39.8	
	35					TID-PEZ.2 DEP 35.6
	36					PULL #8
	37				11	START 2.15 END 2.30 TIME 15min DPL 15min RAN 7.6 REC 9.5 LOSS 0 JUNK 0.1
	38			38.1		
	39				12	
	40					
	41			41.7		
	42				13	
	43					
452.9	44		ART BOTTOM HOLE	44.3		DEP 45.2 TID-PEZ.2

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1960 OF-628-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-8/2



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		OPD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK+DAM		10. SIZE AND TYPE OF BIT		4x5 1/2	
3. DRILLING AGENCY		W. G. JAGUES		11. DAYUM FOR ELEVATION SHOWN (TBM = MSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-9/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57MOBILE	
5. NAME OF DRILLER		TICE / HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		13	
7. THICKNESS OF OVERBURDEN		E 496.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		44.1		16. DATE HOLE		STARTED 12/19/88 COMPLETED 12/19/88	
9. TOTAL DEPTH OF HOLE		452.7		17. ELEVATION TOP OF HOLE		496.8	
				18. TOTAL CORE RECOVERY FOR BORING 44.1		0	
				19. SIGNATURE OF INSPECTOR		J. M. H.	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.8	1		SANDSTONE			PULL #1	
	2		BR-LTGR, M-C-9, H		1	START 11:21	
	3		M.G. + MLC ABOVE 493.0			END 11:35	
	4		C.G. W/LOC Thin sh + CL			TIME 19min	
	5		FRAG + STRINGERS 6-10W		3.7	DRL 19min	
	6		493.0, SURFACE STAINED			RNN 5.0	
	7		496.8 - 496.6, SANDY			REC 4.7	
			STRINGERS 495.8, 494.9			LOSS 8	
						UNACQD	
489.2	8		ICL			TIDEP 4.7	
	9		R. BR, S, MOTTLED W/			DEPS.0	
	10		9R-SN,GR CL, LTGR		2	PULL #2	
	11		489.2-488.7 W/FATTY CL			START 11:41	
			489.1-489.0 BKN 488.9-488.1			END 11:51	
			RKN 486.3-486.1		7.2	TIME 10min	
						DRL 10min	
						RAN 3.7	
						REC 3.7	
						LOSS 8	
						UNACQD	
						TIDEP 8.4	
						D=08.6	
485.2	12		SLT		3	PULL #3	
	13		GR-SN, GR, M.H.			START 12:31	
	14		GRADATIONAL W/SH			END 12:48	
	15		Q TOP TO SQ @ BOTTOM			TIME 13min	
	16		REDRILL 484.9-483.2		10.7	DRL 13min	
	17		HIGH HING PWS W/SLK			RNN 5	
	18		483.1-482.5, 482.7-482.3			REC 3.5	
	19		481.6-481.5, SQ BELOW			LOSS 0	
	20		477.6 W/LOC GRADATIONAL			UNACQD	
			F.G. SS.			TIDEP 11.7	
			(CONT)		4	DEP 13.6	
					14.1	PULL #4	
						START 12:51	
						END 1:06	
						TIME 12min	
					5	DRL 12min	
						RAN 5.7	
						REC 7.2	
						LOSS 8	
						UNACQD	
					17.8	DEP + TIDEP 19.3	
					6	PULL #5	
					(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. M-9/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.8		Hole No. M-911	
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CP		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.1	20		SLS		6	PULL #5
	21		SANDSTONE		21.0	START 1:21 END 1:37 TIME 16min DRL 16min FAN 10.0 REL 10.0 LOSS 0 UNAC 0
	22		GR-LT.GR. F.-M.G, M.H			
	23		MHC, O.C. F. bottom		7	
	24		SA STRAT: 474.2 - 474.1			
	25		473.6 - 473.5		24.5	
	26					
	27				8	
	28				28.2	
	29					DEP+TIDEP 29.3 PULL #6
	30				9	START 1:56 END 2:19 TIME 18min DRL 18min FAN 10.0 REL 10.0 LOSS 0 UNAC 0
	31				31.5	
	32					
	33				10	
	34				35.1	
	35					
	36				11	
	37				38.8	
	38					DEP+TIDEP 39.3 PULL #7
	39					START 2:31 END 2:46 TIME 15min DRL 15min FAN 9.8 REL 9.8 LOSS 0 UNAC 0
	40				42.3	
	41					
	42				12	
	43				13	
452.7	44.1		44.1 Bottom Hole		44.1	DEP+TIDEP 44.1

ENG FORM 1836-A (BR 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
M-911

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORHCD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		MONO M-9 STA 11460B		10. SIZE AND TYPE OF BIT		4X5/2	
3. DRILLING AGENCY		W. G. JABOES		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-9/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		STEVE FRYE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		12	
7. THICKNESS OF OVERBURDEN		496.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		42.8		16. DATE HOLE		STARTED 12/27/88 COMPLETED 12/27/88	
9. TOTAL DEPTH OF HOLE		459.0		17. ELEVATION TOP OF HOLE		496.8	
				18. TOTAL CORE RECOVERY FOR BORING		42.8	
				19. SIGNATURE OF INSPECTOR		JTH	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.8			SANDSTONE			PULL #1	
	1		GR-LT.GR, M.H-H, M.C.G.			START 7.31	
	2		OCCL. MIC. FC SURFACE			END 7.9	
	3		STAIN 496.8-496.7, BLN		1	TIME 11min	
	4		PNS W/O. SPACING 496.8			DRL 11min	
	5		-493.8, COL. CCM. 495.4		3.8	RAN 4.5	
	6		-495.1, C.G. 493.8-492.6			REC 4.5	
	7		M.F. JABOES + BELOW			LOSS 0	
	8		NUM THINSA STAINING			UNACC 0	
	9		492.0, 491.9, 490.9-490.8		7.3	DED+T/DCL 4.5	
	10					PULL #2	
	11				2	START 8.09	
	12					END 8.15	
	13					TIME 6min	
	14					DRL 6min	
	15				7.3	RAN 3.8	
	16					REC 3.8	
	17					LOSS 0	
	18					UNACC 0	
	19					DED+T/DCL 8.3	
	20				3	PULL #3	
	21					START 8.30	
	22					END 8.49	
	23					TIME 19min	
	24					DRL 19min	
	25				10.9	RAN 5.0	
	26					REC 5.0	
	27					LOSS 0	
	28					UNACC 0	
483.9			SLT		4	DED+T/DCL 19.9	
	29		GR, S.M.H, SA, C/S SEAM			PULL #4	
	30		483.6-483.5, FC STAINED HIGH		14.9	START 8.59	
	31		ANG, FRAC, 483.5-482.0			END 9.15	
	32		SS. GR, M.H, Fg. 481.6-481.1			TIME 16min	
	33		476.4-476.1, BLN W/COR DIG			DRL 16min	
	34		LOSS 479.6-479.2, THINCS		5	RAN 4.4	
	35		SEAM 477.0 500-484, BLN			REC 3.3	
	36		MIC. 476.5-476.4, BLN			LOSS 0	
	37		476.1-475.5 (CONT)			UNACC 0	
	38					T/DCL 16.9	
	39				18.0	DED+T/DCL 17.7	
	40				6 (CONT)	PULL #5	
	41					START 9.35	
	42					END 9.52	
	43					TIME 17min	
	44					DRL 17min	
	45					CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-9/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				496.8		M-9/2	
GALLIPOLIS LOCK & DAM				INSTALLATION		SHEET 2	
				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
475.4	20		(CONT) SLS		6	PAN 9.7 PULLED REC 3.7 T/DCP 20.5 LOSS 0 UNACQ	
	21		SANDSTONE				
	22		GR-LT GR, M.H, F-M.7		21.4	DCP 21.3	
	23		MIC, SM P.P. nod			PULL #6 START 10:10 END 10:25 TIME 15min DRL 15min PAN 3.9 REC 3.9 UNACQ	
	24		474.3-473.9, 470.2-469.4		7	DCP + T/DCP 23.7	
	25		SM. CAL. COM. nod 473.0			PULL #7	
	26		MECH FRAC 463.3-463.0		25.1	START 10:45 END 11:05 TIME 20min DRL 20min PAN 10.3 REC 10.1 LOSS 0 UNACQ	
	27		nom thin mic bd pns				
	28		(BAND) 462.4, 456.2-456.1		8		
	29		455.9				
	30				28.9		
	31				9		
	32						
	33				32.7		
	34					DCP 39.0 T/DCP 33.4	
	35				10	PULL #8 START 11:25 END 12:05 TIME 40min DRL 40min PAN 8.7 REC 8.4 LOSS 0 UNACQ	
	36				36.0		
	37						
	38						
	39						
	40				39.7	PULL #9 START 12:50 END 1:00 TIME 10min DRL 10min PAN 0.6 REC 0.3 LOSS 0 UNACQ	
454.0	42		Bottom Hole		42.8	DCP 42.5 DCP + T/DCP 42.8	
	43						
	44						

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1980 OF - 528 - 503

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-9/2

DRILLING LOG		DIVISION	INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM			10. SIZE AND TYPE OF BIT 4X5V2			
2. LOCATION (Coordinates or Station) MONO M-10 STA 11+50B			11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W. G. JAGUES			12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-10/1			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE			14. TOTAL NUMBER CORE BOXES 13		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.9			16. DATE HOLE STARTED 12/19/88 COMPLETED 12/20/88			
8. DEPTH DRILLED INTO ROCK 99.7			17. ELEVATION TOP OF HOLE 496.9			
9. TOTAL DEPTH OF HOLE 452.2			18. TOTAL CORE RECOVERY FOR BORING 99.7			
			19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE			PULL #1
	2		SE-Lt gr., M-H-H, MI-CG.		1	START 3:26 END 3:31 TIME 11min DRL 11min RAN 96 REC 46 LOSS 0 UNACCD
	3		Mic Fe SURFACE STAINED			
	4		496.9-496.8 BEDS 46.5% DRL	3.9		
	5		CONG LOMONITE 493.2-492.9			
	6		CLSTAN 492.5 BKN SASHAN		2	TIDCP 96 DRL 5.0
	7		492.4-492.3, SH, STAN			
	8		490.5 - 490.8			
490.2	9		ICL			PULL #2
	10		R-BR, S, MOTTLED W/			START 3:40 END 3:45 TIME 5min DRL 9min RAN 3.7 REC 3.7 UNACCD LOSS 0 DRL 6.9 TIDCP 8.3
	11		GR+GN CL, SEU-RHY BKN		3	
	12		W FATTY CL 490.2-490.1			
	13		LTGR 490.2-489.5 BKN			PULL #3
	14		488.6-488.9 ANGPN 30°			START 7:08 END 7:13 TIME 5min DRL 15min RAN 2.4 REC 2.5 TIDCP 10.7 DRL 11.2
	15		488.1-488.9, 487.7-487.5	7.8		LOSS 0 UNACCD
	16		487.6-487.9, SCLARKY BKN			
486.6	17		487.3-487.1			
	18		SKS			PULL #4
	19		GR-SN, GR. S-A.H.		4	START 7:31 END 8:01 TIME 30min DRL 30min RAN 8.6 REC 8.5 LOSS 0 UNACCD
	20		GRADATIONAL W/SA			
	21		AT TOP TO SAND @			
	22		BOTTOM, L'KN PDS			
	23		SPACING 0.5 BKN 483.6	13.1		
	24		486.1, SHALE SEAM			
	25		478.9-478.8, SANDSTONE		5	
	26		LTGR, M.H.F. 9. 477.9-477.6			
	27				6	
	28					
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ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-10/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.9		Hole No. M-10/1	
PROJECT Gallipolis Lock & Dam				INSTALLATION OEH-CD		SHEET 1 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		SLS		20.2	PULL #5	
	21						
	22				7	START 8:12 END 9:10 TIME 58min DEL 28min RAN 9.7 REC 9.7 LOSS Ø UNACCL Ø	
479.3							
	23		SANDSTONE				
	24		GR-LTGR, M.H, E-M.9		24.0		
	25		M.S. O.C.K. B.H. GRATION				
	26		CONTACT w/upper SLS		8		
	27		OCC. SAND, S. COH. RECI				
	28		7.1 PITE NODULARS:				
	29		77.5-86.1, NUM. MIC		27.0		
	30		Et pins 85.9, 85.4				
	31				9	Dep 29.3 TIDEP 29.0	
	32					PULL #6	
	33					START 9:18 END 9:40 TIME 12min DEL 22min RAN 10.0 REL 10.0 LOSS Ø UNACCL Ø	
	34				10		
	35				34.9		
	36						
	37				11		
	38						
	39				38.6		
	40					Dep 39.3 TIDEP 39.0	
	41				12	PULL #7 START 10:04 END 10:17 TIME 13min DEL 13min RAN 5.7 REL 5.7 LOSS Ø UNACCL Ø	
	42				42.3		
	43				13		
452.2	44		Bottom Hole 49.7		44.7	Dep + TIDEP 44.7	

ENG FORM  
AN 67

1836-A

(BR 1110-1-1801)

GPO 1960 OF - 628-603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

M-10/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		BPH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		M-10 STA 11+08.8		10. SIZE AND TYPE OF BIT		4X5 1/2	
3. DRILLING AGENCY		W. G. JAGUES		11. DAYUM FOR ELEVATION SHOWN (TBM or BELL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-10/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		DAVE HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		13	
7. THICKNESS OF OVERBURDEN		0 496.7		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		45.7		16. DATE HOLE		STARTED 12/27/88 COMPLETED 12/27/88	
9. TOTAL DEPTH OF HOLE		451.0		17. ELEVATION TOP OF HOLE		496.7	
				18. TOTAL CORE RECOVERY FOR BORING		45.7	
				19. SIGNATURE OF INSPECTOR		JMN	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.7	1		SANDSTONE GR-LTGR, M.H.-H, M-CG.			PULL #1 START 1:40 END 2:00 TIME 20min DPL 20min RHN 4.3 REL 4.3 LOSS 0 UNACQ	
	2		BKN PMS W/O.B. SPACING 496.7-499.9, CG-L-CPM 495.7		1		
	3		492.8, CG. W/O.C.S.M., CL				
	4		FRAG + STRONG CWS 491.9		3.7		
	5		491.1, OCC.S.M., CL FRAG			DEPT/T/DEP 4.3 PULL #2	
	6		489.8-488.5, MUCK CHIPPED		2	START 2:05 END 2:15 TIME 10min DPL 10min RHN 4.6 REL 4.6 LOSS 0 UNACQ	
	7		488.5-488.3		7.5		
487.8	8						
	9		SLS		3	DEPT/T/DEP 8.9 PULL #3	
	10		GR, M.H., SQ CL LENSE			START 2:26 END 2:37 TIME 11min DPL 11min RHN 4.8 REL 5.1 LOSS 0 UNACQ	
486.0	11				11.2		
	12		SANDSTONE GR-LTGR, M.H. F-M.G.				
	13		OCC, MIC CAL CPM 484.0-482.6		4		
	14					DEPT/T/DEP 13.7 PULL #4	
481.6	15				18.5	START 2:55 END 3:15 TIME 20 DPL 20 RHN 4.5 REL 6.3 LOSS 0 UNACQ	
	16		SLS GR-S-M.H., GRATIONARIAL W/SA 2 TOP SQ & BOTTOM.		5		
480.4	17		CL GR, S; S-NEWS 481.6-481.5, 481.3-481.1				
	18		SANDSTONE GR-LTGR, M.H. F-M.G. OCC		18.2		
	19		MIC, SAT 496.7-476.4		6		
	20				(CONT)		

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-10/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No.	
PROJECT				INSTALLATION	SHEET	
GALLIPOLIS LOCK & DAM				ORH-CD	2	
CLASSIFICATION OF MATERIALS				% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS
(Description)	(Description)	(Description)	(Description)	(Description)	(Description)	(Description)
a	b	c	d	e	f	g
	20		SANDSTONE		6	DEP 20.2 PULL #5
	21		FCW, OCC, SM, PYP, NOD		21.9	START 3.95 END 4.14 TIME 20 min DRL 28 min RAN 9.3 REC 9.1 LOSS 0 UNACQ 0
	22		475.4-479.8, Thin calcite			
	23		Faded veins 468.2-468.1		7	
	24		Slightly med. blk			
	25		467.2-467.1		25.0	
	26		Thin sh. 5 TH. USG 465-			
	27		465.9, COL CPM 963.1-461.2		8	
	28		454.2-458.0			
	29				28.8	
	30					DEP 29.5 T/D 29.8 PULL #6
	31				9	START 4.39 END 4.55 TIME 21 min DRL 21 min RAN 8.1 REC 8.2 LOSS 0 UNACQ 0
	32				31.9	
	33				10	
	34					
	35				35.4	
	36					
	37				11	
	38					T/D 37.7
	39				38.8	DEP 38.9 PULL #7
	40				12	START 5.20 END 5.27 TIME 7 min DRL 7 min RAN 9.0 REC 8.0 LOSS 0 UNACQ 0
	41					
	42				13	
	43					
451.0	44		BOTTOM HOLE 45.7		45.7	DEP 45.8 T/D 45.7

ENG FORM  
JUN 67

1836-A

(RR 1110-1-1001)

GPO 1969 OF - 622 - 503

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

14-10/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OPEN-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4x5 1/2	
3. DRILLING AGENCY		W. G. JABUES		11. DATUM FOR ELEVATION SHOWN (FIM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-11/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		WAYNE TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		13	
7. THICKNESS OF OVERBURDEN		0 497.1		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		484		16. DATE HOLE		STARTED 12/20/88 COMPLETED 12/20/88	
9. TOTAL DEPTH OF HOLE		452.7		17. ELEVATION TOP OF HOLE		497.1	
				18. TOTAL CORE RECOVERY FOR BORING		99.1	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.1	1		SANDSTONE GR-LTGR, M.G., M.H.H.			PULL #1	
	2		OCC MIC, FC SURFACE STAIN		1	START 11:02 END 11:12 TIME 10min DRL 10min RAW 5.0 REC 5.0 LOSS 0 UNACL 0	
	3		SPALC 497.1-496.3, C.G. 495.3		36		
	4		-493.1, 492.5-491.5, NUM THIN				
	5		SH + CL FINE + STRINGS		7	D-P 11:02 PULL #2	
497.1	6		SLT			START 11:25 END 11:34 TIME 11min DRL 11min RAW 2.9 REC 3.0 LOSS 0 UNACL 0	
489.8	7		GR. S. SH. SANDSTONE (LWSC 490.8-490.7 (LTGR med gr))		68	D-P 11:34 T/DEP 7.9	
	8		ICL		3	D-P 11:34 T/DEP 7.9	
	9		R. BR, S. MOTTLED W/GR + GR, CL MECH BK			D-P 11:34 T/DEP 7.9	
487.1	10		488.1-488.9, ANG PW 30° W/ SLT, 488.9-488.8, 488.6- 488.5, -488.4, 488.3-488.2		10.0	PULL #3 START 12:01 END 12:35 TIME 12min DRL 12min RAW 2.1 REC 1.9 LOSS 0.1 UNACL 0.1	
484.3	11		SLT		4	D-P 12:35 T/DEP 10.0	
	12		GR. SWGR, S-M.H. GRAL W/SH @ TOP TO SQ. D. 20TH			D-P 12:35 T/DEP 10.0	
	13		SANDSTONE		13.5	PULL #4 START 12:55 END 1:10 TIME 15min DRL 15min RAW 7.3 REC 9.1 LOSS 0.1 UNACL 0.1	
	14		GR-LTGR, M.H. F-M.G.				
	15		MIC, OCC Y BD, SLT + F.G.		5		
	16		483.6-483.1, HIGH ANG 45°				
	17		SH SPAM 479.3-479.0,		18.0		
	18		THIN CLS-M. 479.0, SLT				
	19		479.0-477.8 (GR, S.) BK		6		
	20		SH, S-M. 477.5-477.4		(CONT)		
			CLS-M. 477.2, 469.7.			D-P 19.4 T/DEP 12.3 PULL #5	
			(CONT)				

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-11/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK + DAM		497.1 OPH-CD		MA-1111		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #5
	21		- 96.7, OCC SCATTERED SM		7	START 1:24 END 1:49 TIME 25 min DRL 25 min RAN 10 min REL 10 min LOSS 0 UNACQ 0
	22		PYP MOD 477.1-473.1			
	23				29.2	
	24					
	25					
	26				8	
	27					
	28				27.9	
	29					
	30				9	DRL 29.9 DCP 29.3 PULL #6
	31				31.2	START 2:05 END 2:25 TIME 20 min DRL 20 min RAN 9.4 REL 9.8 LOSS 0 UNACQ 0
	32					
	33				18	
	34					
	35				32.9	
	36					
	37				11	
	38					
	39				38.6	
	40					T/D P 37.0 DCP 39.4
	41				12	PULL #7 START 2:43 END 3:03 TIME 20 min DRL 20 min RAN 5.0 REL 5.0 LOSS 0 UNACQ 0
	42				13	
	43					
453.0	44		BOTTOM HOLE 491.1		44.1	DRL 44.9 T/D P 44.1

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1960 OF - 628-603

PROJECT GALLIPOLIS LOCK + DAM

HOLE NO. MA-1111

DRILLING LOG		DIVISION	INSTALLATION	DATE NO.	SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS Lock+Dam		OLD	ORH-CD	11/11/88		
2. LOCATION (Coordinates or Station) MONO M-11 STA 10+58.8			10. SIZE AND TYPE OF BIT 4 1/2 IN			
3. DRILLING AGENCY W. G. JACOBS			11. DATUM FOR ELEVATION (Mean Sea Level or B.M.) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) M-11/2			12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
5. NAME OF DRILLER DAVE HARPER			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN UNDISTURBED N/A			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES 13			
7. THICKNESS OF OVERBURDEN 0 496.8			15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 43.9			16. DATE HOLE STARTED 12/27/88 COMPLETED 12/27/88			
9. TOTAL DEPTH OF HOLE 452.9			17. ELEVATION TOP OF HOLE 496.8			
			18. TOTAL CORE RECOVERY FOR BORING 43.9			
			19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE GR-LTGR, M.H.-H, M.-C.9			PULL #1 START 18:15 END 18:26 TIME 11min DRL 11min RAN 6.8 REC 9.6 LOSS 0 UNACQ
	2		OCC MIC, SH STRINGERS		1	
	3		492.9, OCC THIN SH STRING			
	4		+ FRAG, 492.7-491.8		3.7	
	5		COL CCM 489.1-488.2			
	6		SILT, MCH BKN 488.1-487.8		2	TIDP 0.3
	7					
	8					
497.6	9				7.2	DEP 6.8 PULL #2 START 18:33 END 18:50 TIME 17min DRL 17min RAN 2.3 REC 9.0 LOSS 0.3 UNACQ
	10		CLS GN-GRS, SH, BKN 487.6-487.5		3	TIDP 8.9 DEP 7.1
486.1	11		LOW ANG, PWS, 20° APAL-486.6		10.7	
	12		SLS GR-GN-GR, M.H.-S, SA		4	PULL #3 START 19:06 END 19:22 TIME 16min DRL 16min RAN 4.6 REC 3.6 LOSS 0 UNACQ
	13		MOD BKN CL GRS 484.5			TIDP 14.3
	14		-484.3, 483.8-483.7, BKN			
	15		484.3-483.8			DEP 13.7
482.0	16		SANDSTONE		14.4	PULL #4 START 19:30 END 19:52 TIME 12min DRL 12min RAN 3.8 REC 2.5 LOSS 0 UNACQ
	17		LTGR, M.H. F. 9		5	TIDP 17.2 DEP 13.5
478.9	18				17.9	
	19		SLS GR-S-M.H, SA SH, 478.5-478.8		6	PULL #5 START 20:55 END 21:20 TIME 25min
476.9	20		SA ABOVE + Below, CL SCAM		(CONT)	(CONT)
			478.5, 478.2, 478.0-477.9			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS Lock+Dam HOLE NO. M-11/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.8		Hole No. 11-11/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-LD		SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		SANDSTONE			PULL#5	
	21		GR. - LT. GR. 1 M. H. F. M. G. OCC		6	DRL 25 min	
	22		Mic, FEW SM, PYR. NOD		21.6	RAN 6.8	
	23		475.9 - 477.0, ANG 95°, THIN			REL 9.9	
	24		SH STRINGER 471.3 - 471.2		7	LOSS 0	
	25		COAL, CRM, NOD 471.1 - 470.1			UNACC 0	
	26		469.7 - 469.8, REDRILL 465.2		28.6	DPP 29.2 TDRP 29.3	
	27		- 469.2, THIN SH FRAG			PULL#6	
	28		469.0, NUM THIN MIC		8	START 21:55	
	29		BdL DNS (BAND) 463.1			END 23:13	
	30		462.6			TIME 18 min	
	31					DRL 18 min	
	32					RAN 9.8	
	33					REL 7.9	
	34					LOSS 0.9	
	35					UNACC 0.9	
	36				9		
	37					TDRP 32.0	
	38						
	39				10		
	40					DPP 39.1	
	41					PULL#7	
	42				38.3	START 22:50	
	43					END 22:53	
	44					TIME 13 min	
	45					DRL 13 min	
	46				11	RAN 6.1	
	47					REL 8.2	
	48					LOSS 0	
	49					UNACC 0	
	50				38.7		
	51					TDRP 40.0	
	52				12	DPP 40.2	
	53					PULL#8	
	54					START 23:00	
	55					END 23:20	
	56					TIME 20 min	
	57					DRL 20 min	
	58				42.9	RAN 5.0	
	59					REL 3.9 UNACC 0	
	60				13	LOSS 0	
452.9	61		Bottom Hole		43.9	DPP 43.5 TDRP 43.5	

ENG FORM  
JAN 67

1836-A

(HR 1110-1-1801)

GPO 1960 OF - 525 - 503

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

11-11/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4V5K			
2. LOCATION (Coordinate or Station) MONO MID 1079A B				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) M.S.L.			
3. DRILLING AGENCY W. G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 - MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-12/1				13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 1/4/89 COMPLETED 1/5/89	
7. THICKNESS OF OVERBURDEN 497.1				17. ELEVATION TOP OF HOLE 497.1			
8. DEPTH DRILLED INTO ROCK 37.9				18. TOTAL CORE RECOVERY FOR BORING 37.9			
9. TOTAL DEPTH OF HOLE 459.2				19. SIGNATURE OF INSPECTOR J.M.D.			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		SANDSTONE LT. GR. GR, M.H. - H.			PULL #1	
	2		M-Cg. OCC MIC NUM		1	START 21.22 END 21.39 TIME 17min DRL 17min RAW 5.0 REC 5.0 LOSS 0 UNACCL 0	
	3		SM CL. SCAMS, FRAGS		3.8	DEPS. 0	
	4					PULL #2	
	5				2	START 21.52 END 22.34 TIME 42min DRL 42min RAW 6.1 REC 6.1 LOSS 0 UNACCL 0	
	6				22		
	7				3	UNACCL 0	
	8						
	9						
	10						
	11				10.9	DOP 11.4	
485.7	12		SLT GR, S-M.H, SQ, CLS		4	PULL #3	
	13		SCAM GR. S, CLAYCY 480.2 - 480.1			START 23.05 END 23.17 TIME 19min DRL 19min RAW - REC 2.6 LOSS - UNACCL -	
483.2	14		SANDSTONE GR-LTGR, M.H, U.E.F.-		13.9	DEP 13.9	
	15		M.G. SOLIDLY BKN		5	PULL #4	
	16		479.1 - 479.2 SLTGR. 1			START 8:00 END 9:00 TIME 60min DRL 60min RAW 9.0 REC 9.0 LOSS 0 UNACCL 0	
	17		478.1 SLIGHTLY BKN		17.5	(CONT)	
	18		M-Fg Below 468.5.		6		
	19				CONT	(CONT)	
	20		(CONT)				

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK + DAM

HOLE NO.  
M-12/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No. M-12/1	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
6 Allipolis Lock + Dam			OPH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #4
	21				21.3	
	22					
	23				7	DCP 22.9 PULL #5
	24					START 9.15 END 9.45 TIME 30 min
	25				24.9	DEL 30 min RAN 5.0
	26				8	REC 5.9 LOSS 0 UNACQ
	27					
	28				28.3	DCP 28.3
	29					PULL #6
	30				9	START 10:00 END 10:20 TIME 20 min
	31					DEL 20 min RAN 9.6
	32				31.9	REC 9.6 LOSS 0 UNACQ
	33					
	34				10	
	35					
	36				36.7	
	37				11	
459.2	38		BOTTOM HOLE		37.9	DCP 37.9
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JAN 67

(NR 1110-1-1801)

GPO 1980 OF - 828 - 603

PROJECT

6 Allipolis Lock + Dam

HOLE NO.

M-12/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		OED		OEH-CP		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinate or Station) MONO M-12 STA 10+10.8				11. DATUM FOR ELEVATION SHOWN (788 or M.S.L.) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-12/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 497.9				16. DATE HOLE 12/28/88		STARTED 12/28/88	
8. DEPTH DRILLED INTO ROCK 38.2				17. ELEVATION TOP OF HOLE 497.9		COMPLETED 12/28/88	
9. TOTAL DEPTH OF HOLE 459.2				18. TOTAL CORE RECOVERY FOR BORING 36.6			
				19. SIGNATURE OF INSPECTOR L.M.D.			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.9	1		SANDSTONE LT, GR-GR, M.H-H, M.Cg			PULL #1 START 7:45 END 8:03 TIME 18 min DRL 18 min RAN 9.2 REC 9.2 LOSS 0 UNACCL 0	
	2		OCC MILC., NUM SM CL,		1		
	3		Frag 493.1-492.7, C.G. 493.3				
	4		-492.7 M.C.G. 492.4-493.3		3.7		
	5		M.S. 492.7-487.7			T/DEP 9.2	
	6		Cal Com 489.7-489.1			DEP 9.8	
	7				2	PULL #2 START 8:10 END 8:20 TIME 10 min DRL 10 min RAN 3.5 REC 3.2 LOSS 0.3 UNACCL 0.3	
	8				7.2	T/DEP 7.7	
487.8	9				3		
	10		SLS			DEP 9.6	
	11		GR-GRGR, M.H-S, SA, Num FRAC SLT BKN, FINTY CL LT, GR 487.8			PULL #3 START 8:30 END 8:50 TIME 20 min DRL 20 min RAN 4.6 REC 4.5 LOSS 0 UNACCL 0	
	12		- 487.6 SLT SOL 487.6-486.6 SA below 485.8, SCURPLY BKN 485.4-485.2		11.0	T/DEP 11.2	
484.9	13		SANDSTONE		4	DEP 13.0	
	14		GR, M.H, F-UE9. SLT			PULL #4 START 9:20 END 9:35 TIME 15 min DRL 15 min RAN 7.2 REC 7.4 LOSS 0 UNACCL 0	
481.9	15		SLS		14.6		
	16		GR, S-M.H, SA CLS SCAM GR, S. CLAYCY 481.1-481.0, 480.6- 480.5		5		
480.5	17		SANDSTONE			T/DEP 4.6	
	18		GR-LTGR, M.H, U.C.R-M. S, SCURPLY BKN 479.2- 479.1, SLT 479.2-478.0 V THIN CLS SCAM 478.1- 478.3, 478.5-478.4		18.2		
	19				6		
	20		CONT		CONT		

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-12/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS Lock + Dam		OBH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			
	21		slightly BKN 976.7		6	DEP 21.0 PULL #5
	22		PYR. STAINER 967.9-967.6		21.7	START 15:55 END 16:27 TIME 32min DEL 32min RAN 9.9 REC 9.9 LOSS 0 UNACC 0
	23		M-F. 6' low 968.6, F-			
	24		VE. F. ABOVE, M.C.		7	
	25		SM. SILS FRAG w/ calcite			
	26		966.2, calc cont. 964.1-963.9		25.9	
	27				8	
	28					
	29				28.8	
	30					DEP 28.5
	31				9	
	32				32.3	
	33					
	34				10	
462.0	35					
	36		SILS		36.0	
	37		462.0-960.0 GR, S.-M. H, SA BKN PMS O.E SPACING SS SCAMS, G. M.H. Fg. 461.6-461.9, 461.2-461.1 960.5 460.9		11	
460.0	38		SANDSTONE		37.6	
459.8	39		430.0-459.8 LT. GR. H. F-MG. CAL CONT. Bottom HOLE			DEP 379.3 PULL #7 TIME 329.5
	40					START 16:45 END 17:16 TIME 31min DEL 31min RAN 7.6 REC 8.9 LOSS 0 UNACC 0
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(RR 1110-1-1001)

GPO 1980 OF - 628-603

PROJECT

GALLIPOLIS Lock + Dam

HOLE NO.

11-12/2



DRILLING LOG		ORH		ORH-CD		SHEET 1 OF 4 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4" X 5 1/2"			
2. LOCATION (Coordinates or Station) MONO M-13 STA 10+00 B				11. DATUM FOR ELEVATION SHOWN (FEET or METERS) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-13/1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER DAVID HARPER				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 11/7/89 COMPLETED 11/9/89	
7. THICKNESS OF OVERBURDEN 497.2				17. ELEVATION TOP OF HOLE 497.2			
8. DEPTH DRILLED INTO ROCK 38.7				18. TOTAL CORE RECOVERY FOR BORING 38.7			
9. TOTAL DEPTH OF HOLE 458.5				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.2	1		SANDSTONE  SLY, m.g. m.h., m.gr.			PULL #1  START 12.40 END 12.52 TIME 18 DRH 18 RAN REC 4.8 LOSS 0 UNACC 0	
	2				1		
	3						
	4				3.8		
	5					T/D: P 4.6 DEP 5.0	
496.5	6		CLS m.-dk. gr., s.-v. h. SLS. LENS 6.1-6.5		2.	PULL #2  START 1.02 END 1.15 TIME 13 min DRH 13 min KHU REC 4.4 LOSS 0 UNACC 0	
490.7	7		ICK R BR, SLK, S. v. bkn 0.1 LC 9.2-9.3 (Prob) V.i		7.3		
	8						
	9				3		
457.9	10		SLS- m.-dk gr, m.h. ccsn. 1.5 CLS 13.0-13.3		(CONT)	T/D: DEP 9.2 DEP 9.4  PULL #3 (CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
Gallipolis Locks & Dam

HOLE NO.  
M-13/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS Lock & DAM			4972 ORH-CD		M-13/1 2 OF 3 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		SLS		3	PULL #3
			M. dk. gr, m. h, os			
			sa v.s. cls 13.0-			
			13.3			
	11					START 1:28
						END 1:43
						Time 15
						DRL 15
						RAN
	12					REC 4.3
					4	LOSS 0.1
						UNACC 0.1
483.9	13					
			SANDSTONE			T/DEP 13.6
	14		Sly, fig, m. h.,			DEP 14.0
			m. SE. mech pgs			
			@ 14.5, 14.9, 15.3			PULL #4
			15.7 & 16.8: SLS 20			
	15		17.5-180: mech pgs			START 1:55
			@ 19.3, 20.0, 20.8,			END 2:10
			21.7 & 23.0			Time 15 min
			CLAY 20.3 & 3-349			DRL 15 min
	16				5	RAN
						REC 6.8
						LOSS 0
						UNACC 0
	17					
	18					
	19				6	
	20					T/DEP 20.4
						DEP 20.7
	21					
					7	PULL #5
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A  
JAN 67

SPQ: 1989 OF-329-343

PROJECT GALLIPOLIS Lock & DAM  
HOLE NO. M-13/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.2		Hole No. M 13/1		
PROJECT 6ALLIPOLIS Lock & DAM		INSTALLATION ORH-CD		SHEET 3 OF 4 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE			PULL #5
	23				7.	START 2:25 END 3:00 TIME 35 min DRL 35 min RAN REC 6.4 LOSS 0 LINACC 0
	24					
	25				27.8	
	26					
	27				8	T/DEP: DEP 26.8
	28					PULL #6
	29				28.3	START 7:30 END 8:10 TIME 40 DRL 40 RAN REC 8.1 LOSS 0 LINACC 0
	30					
	31				9.	
	32				32.0	
	33				10	
	34		(Cont)	(Cont)	(Cont)	(Cont)

ENG FORM 1836-A  
JUN 67

SPD: 1969 GP-329-143

PROJECT 6ALLIPOLIS Lock & Dam  
HOLE NO. M 13/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-LD		M-13/1		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	34		SANDSTONE		10.	PULL #6
	35				35.5	DEP: T/DEP 34.9
461.7						PULL #7
	36		CLS m. dk gr, s. m. h. bkn w/cons, spais			START 8:30
460.6						END 8:55
	37		I CL - R. OR, SLK, S. V. bkn		11.	TIME 25
	38					DRL 25
458.5						RAN
	39					REC 3.8
	40					LOSS 0
						UNHCC 0
					38.7	DEP: T/DEP 38.7

ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-329-245

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-13/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CP		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		MONO M-13 STA 454B		10. SIZE AND TYPE OF BIT 415H		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY		W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-13/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER		WAYNE TICE		14. TOTAL NUMBER CORE BOXES		11	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		0 497.1		16. DATE HOLE		STARTED 1/5/88 COMPLETED 1/5/88	
8. DEPTH DRILLED INTO ROCK		37.9		17. ELEVATION TOP OF HOLE		497.1	
9. TOTAL DEPTH OF HOLE		456.2		18. TOTAL CORE RECOVERY FOR BORING		37.9 %	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.1	1		SS.			PULL #1	
	2		LT-M. GR. M-C.G. M.H.H.			START 8:45	
	3		OCC CHY SCAM. WEATHERED SURFACES		1	END 9:03	
	4					TIME 18min	
	5					DRL 18min	
	6					EAM 9.9	
	7					REL 9.9	
	8					LOSS 0	
	9				3.8	UNACQ	
	10					T/D=29.9	
490.9	11		CLS			DEP 4.7	
490.7	12		White. S.			PULL #2	
	13		SAS		2	START 9:11	
	14		GR, F.G. M.H-S., OCC PARTINGS			END 9:39	
	15		ONCLISH UPRT FACES B.O-S.S			TIME 23min	
	16		SR.		7.5	DRL 23min	
	17					EAM 9.7	
	18					REL 9.7	
	19					LOSS 0	
	20				3	UNACQ	
485.7	21		SS.		11.2	T/DCP 19.1	
	22		GR-SNGR. URF-F.G.			DCP 19.6	
	23		MICA ON X-BDD		4	PULL #3	
	24		CLISH ON PARTINGS			START 9:50	
	25					END 10:06	
	26				5	TIME 16min	
	27					DRL 16min	
	28					EAM 9.9	
	29					REL 9.9	
	30				18.2	LOSS 0	
	31				6	UNACQ	
	32				(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS LOCK+DAM M-13/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK + DAM		ORH-CD		2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21					
	22				24.9	
	23					
	24				7	T/D C/P 29.0
	25					D/C P 29.3
	26				25.3	PULL #4
	27					START 10:40
	28					END 11:06
	29					TIME 26 min
	30				8	DRL 26 min
	31					RAN 9.5
	32					REC 8.7
464.7						LOSS 0.8
					28.9	UNACCL 0.8
	33		CL			
463.7			GR, S, SAT, FRABLE, CASY		32.9	T/D C/P 33.1
	34		ICL			D/C P 33.5
	35		R. BR. - GR. GN, FRABLE			PULL #5
	36		hd SLK.		10	START 11:34
	37					END 12:04
	38					TIME 18 min
	39					DRL 18 min
	40					RAN 4.4
	41					REC 3.8
459.2					36.8	LOSS 0.6
	42				11	UNACCL 0.6
	43		Bottom Hole		37.9	T/D C/P 37.7
	44					
	45					
	46					
	47					
	48					
	49					

ENG FORM  
JUN 67

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 622 - 603

PROJECT

GALLIPOLIS LOCK + DAM

HOLE NO.

M-13/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		DPH-CD		1 OF 4 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" X 5"	
3. DRILLING AGENCY		MONROVIA MT STA 9+44 "B"		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-14/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		DAVID HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 497.1		15. DATE HOLE		STARTED 1/5/88 COMPLETED 1/5/88	
8. DEPTH DRILLED INTO ROCK		38.6		16. ELEVATION GROUND WATER		N/A	
9. TOTAL DEPTH OF HOLE		458.5		17. ELEVATION TOP OF HOLE		497.1	
				18. TOTAL CORE RECOVERY FOR BORING		38.6	
				19. SIGNATURE OF INSPECTOR		MIKE WILKINSON	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.1	1		SANDSTONE, SLY, M.C.G., M.H., GR MIC WITHIN, IRR, DK, GR, SLY, STKS AT SPACED PTGS TO 3.8			PULL #1 START 11:00 END 11:13 TIME 13 DRL 13 RAN 4.8 REC 3.8 LOSS 0 UNREC 0	
493.3	4		ICK R. BR / GREENISH GR, S, SLK O. & L.C. (PROB 3.8-4.2) VE: BKN.; GRADING TOOLS.	3.8		T/DEP 4.6 DEP 4.8	
491.3	6		SLS Ss, S.M.H., M.G.R., PTS SHY BKN. 7.1-7.7 (mech) CLOSELY SPACED, HOR PTGS 8.5-11.2 GRADING TO S.S.	7.3		PULL #2 START 11:23 END 11:37 TIME 14 DRL 14 RAN REC 4.3 LOSS 0.4 UNREC 0.4	
	7					T/DEP 8.5 DEP 8.8	
	10		(CONT)	(CONT)		PULL #3 (CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. 111-14/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.1		Hole No. M-14/1	
PROJECT 6ALLIPOLIS LOCKE DAM			INSTALLATION DRH-CD		SHEET 2 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLs		3	PULL #3
					10.7	
485.9	11					
	12		SANDSTONE			START 12:40
			SLY, fig. m. h, m. gr.			END 1:20
			w/occ SLs zos PTs			Time 20
	13		@ Thin SLY. LAM @		4	DRL 20
			13.6 - 13.8: ve SLY			RHW
			15.6 - 16.8: mic PTs			REC 9.2
			@ 20.1, 23.0, 24.2:			LOSS 0
	14		CLOSELY SPACED			UNACC 0
			PTs. w/ tr. gr.		14.5	
			CL COA in SLY. 20			
	15		25.1 - 25.4: 0.1' dk. gr			
			SLs LAM @ 29.3-29.4			
			@ 29.8 - 29.9			
	16				5	
	17					
						T/DEP 17.7
	18					DEP 17.9
					18.2	
	19					PULL #4
						START 1:35
	20				6	END 1:55
						Time 20
						DRL 20
	21					RHW
						REC 9.3
						LOSS 0
						UNACC 0
	22		(CONT)		22.0	(CONT)

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT 6ALLIPOLIS LOCKE DAM  
HOLE NO. M-14/1



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 ALLIPOPIS LOCK & DAM		ORH-CD		5 OF 4 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		SANDSTONE.			PULL # 4
	23					START 1:35
						END 1:55
	24					TIME 20
						DRH 20
						RAIN
						REC 9.3
						LOSS 0
						UNACC 0
	25					
					25.7	
	26					
	27					
					8.	DEP: T/DEP 27.6
	28					PULL #5
						START 2:10
						END 2:25
	29				29.1	TIME 16
						DRH 16
						RAIN
						REC 4.7
						LOSS 0
						UNACC 0
	30					
					7.	
	31					
465.8						
			ICL			T/D: P 31.8
			R. BR, S, SLK			DEP 32.1
	32		VE. BKN., SLT			
			S. GR. CL @ CONTACT		32.4	
					10	PULL #6
	33					
	34					
			(CONT)		(CONT)	(CONT)

ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-325-243

PROJECT HOLE NO.  
6 ALLIPOPIS LOCK & DAM 11-14/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6ALLIPOLIS LOCK & DAM			497.1		M-14/1	
CLASSIFICATION OF MATERIALS			BOX OR SAMPLE NO.		REMARKS	
(Description)			%		(Drilling time, water lost, depth of weathering, etc., if significant)	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS
a	b	c	d	e	f	g
	34		ICL			PULL #6
			R. BR, S, SLK, VE BKN			
			SLT S.G.R. CL @ CONTACT			
	35				10	T/DEP 34.9
						START 2:45
						END 3:11
						TIME 26
						DRL 26
						RAN
	36				36.2	REC 2.6
						LOSS 0
						UNACC 0
	37					DEP 37.0
					11	PULL #7
						START 3:37
						END 3:47
						TIME 10
						DRL 10
						RAN 1.7
						REC 3.5
458.5	38				38.6	T/DEP 38.6
						DEP 38.7
	39					

ENG FORM 1836-A  
JUN 67

GPO: 1969 O7-323-243

PROJECT 6ALLIPOLIS LOCK & DAM  
HOLE NO. M-14/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		DRH-CD		OF 4 SHEETS	
1. PROJECT GALLIPOLIS LOCKS & DAM				10. SIZE AND TYPE OF BIT #15 1/2"			
2. LOCATION (Coordinates or Station) MONTELEONE M-14 15TA				11. DATUM FOR ELEVATION SHOWN (FSL or MSL) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-14/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 1/5/88 COMPLETED 1/5/88	
7. THICKNESS OF OVERBURDEN 0 497.1				17. ELEVATION TOP OF HOLE 497.1			
8. DEPTH DRILLED INTO ROCK 39.4				18. TOTAL CORE RECOVERY FOR BORING 39.4			
9. TOTAL DEPTH OF HOLE 357.7				19. SIGNATURE OF INSPECTOR MIKE NIELD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		SANDSTONE SLY. M.-C.G., M.H., GR., M.C. WITHIN IRK AREA. ELY STKS			PULL #1  START 13:25 END 13:40 TIME 15 DRL 15 RAW 5.1 REC 4.7 LOSS 0.4 UNREC 0.4	
493.5	4		ICK R. BR / GREENISH GR., S SLK 0.4 L (Prob 3.640)		3.6		
492.0	5					T/DEP'D 5.1	
	6		SLS SH, I.-M.H., M.GR, PTS. SH, PTS. I. 6.5, 6.6, 8.0, 8.7 GRADING		7.5	PULL #2  2. START 13:50 END 14:05 TIME 15 DRL 15 RAW 150 REC 150 LOSS 0 UNREC 0	
488.4	9		CLS				
	10		(CONT)		(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCKS & DAM

HOLE NO.  
21-14/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				497.1		M-14/2	
GALLIPOLIS Locks & DAM				INSTALLATION		SHEET 2	
				ORH-CD		OF 4 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	10		CLS		3	PULL #2.	
	11		SLY S.M. h, m. gr				
			SCL. COA. HOR. PTG		11.3		
			@ 9.6 mech. bkn				
			@ 10.9-11.0 SA 12.1-13.7				
	12						
	13				4		
483.4							
	14		SANDSTONE				
			SLY, f- m. g, m. h.				
	15		m. gr SLS. LAM,		14.9	T/DEP: DEP 15.1	
			STARTING @ 22.6;			PULL #3	
			INCREASING w/DEPTH			START 14:11	
	16					5. ENCL 14:35	
						TIME 24	
	17					DRL 24	
						RAIN 10.0	
	18					REC 9.9	
						LOSS 0	
					18.5	UNHACC 0	
	19				6		
	20						
	21						
	22						
			(CONT)		(CONT)	(CONT)	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-242

PROJECT

GALLIPOLIS Locks & DAM

HOLE NO.

M-14/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		497.1		Hole No. 4-14/2	
PROJECT		INSTALLATION		SHEET 3		OF 4 SHEETS	
GALLIPOLIS LOCKS & DAM		ORH-CD					
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	22		SANDSTONE		6. 22.3	PULL #3	
	23						
	24				7		
	25					T/DEP 25.0 DEP 25.1	
	26				25.8	PULL #4	
470.6						START 14.50	
	27		CLS S.M.H., OK GR., GRADING INTO ICL			END 15.45	
	28				8	TIME 65min	
468.6						DPL 65min	
	29		ICL			RAN 10.0	
	30		GREENISH. SH. GRN/ R. GR, S SLK. V. BKN BECOMING R/BK @ 31.5		29.3	REL 10.0	
	31				9	LOSS 0	
	32					UNWALL 0	
	33				29.3		
	34				10		
			(CONT)		(CONT)	(CONT)	

ENG FORM 1836-A  
JAN 67

GPO 1968 OF-328-243

PROJECT

HOLE NO.

GALLIPOLIS LOCKS & DAM M-14/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT		INSTALLATION		SHEET		OF 4 SHEETS	
6ALLIPOLIS Locks & Dam		ORH-CD		497.1		M-14/2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	34		ICL GREENISH GR/P.BR. S SLK; V BKN BECOMING R.BR @ 315			PULL #4.	
	35				10	DEP 35.1 T/DEP 35.0	
	36					PULL #5	
	37				36.3	START 4:20 END 4:45 TIME 25 DRL 25 RAN 4.1 REC 4.2 LOSS 0 11. LINACC 0	
457.7	39		Bottom Hole			T/DEP 39.1	
	40				39.4	DEP 39.4	

ENG FORM JUN 67 1836-A

GPO: 1969 OF-325-243

PROJECT 6ALLIPOLIS Lock & Dam HOLE NO M-14/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 3 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIAPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" X 5 1/2"	
3. DRILLING AGENCY		W. G. JACQUES		11. DAYUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-15/1		12. MANUFACTURER'S DESIGNATION OF DRILL		K-53 MOBILE	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 496.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		33.7		16. DATE HOLE		STARTED 11/5/89 COMPLETED 11/5/89	
9. TOTAL DEPTH OF HOLE		463.2		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		33.7	
				19. SIGNATURE OF INSPECTOR		LMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.7	1		SANDSTONE,, M-C.G. m.h., GR BKN. (mech) 0.0-2.3			PULL #1	
494.6	2				1	START 4:15 END 4:48 TIME 23 DEL 23 RAN 5.0 REC 2.8 LOSS 0 UNHCC 0	
	3		ICL GR: R. DR., S., MIC BKN. THROUGHOUT; 0.6 LC (Prob 2.3-2.9)		3.6		
492.0	5		SLS SH, S.M.H., M.GR BKN HLONG HA FRK 5.8-6.1 ICL COB, hcr PLA @ 6.7		2	T/DEP 4.6 DEP 5.0	
489.7	7				7.2	T/DEP 2.5 PULL #2 START 4:48 END 5:03 TIME 15 DEL 15 RAN .5 REC 4.8 LOSS 0.6 UNHCC 0 DEP 5.0	
	9		CLS/SLS SHY, S, M.GR C.C. COB, CONTACT		3.	PULL #3	
	10		(CONT)		(CONT)	(CONT)	

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT GALLIAPOLIS LOCK & DAM. HOLE NO. M15/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				496.9		M-15-1	
GALLIPOLIS ROCK I DAM				INSTALLATION		SHEET 2	
				ORH-CD		OF 3 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
486.6	10						
	11				3	PULL #3	
						START 5:40	
						END 5:55	
					11.2	TIME 15	
						DEL 15	
						RAN 7.7	
						REC 4.8	
						LOSS 0	
						UNALL 0	
						T/DEP 12.8	
	12		SANDSTONE				
			SLY, Fie M. H. MGR.				
			CL. CO2 PTs @ 11.6				
			PTs ALONG SLS.				
	13		LAM 21.2, 21.4, 21.6		4	DEP 13.2	
			22.4 : 22.6 GRADING			PULL #4	
			INTO SLS			START 6:15	
	14					END 6:30	
					18.6	TIME 15	
						DEL 15	
						RAN 2.6	
	15					REC 2.7	
						LOSS 0	
						UNALL 0	
						T/DEP : DEP 15.8	
	16				5	PULL #5	
						START 6:58	
						END 7:15	
						TIME 17	
						DEL 17	
	18				18.2	RAN 9.6	
						REC 5.1	
						LOSS 0	
						UNALL 0	
	19						
	20				6	T/DEP 20.6	
	21						
	22		(CONT)		21.9	(CONT)	

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-325-245

PROJECT

GALLIPOLIS ROCK I DAM

HOLE NO.

M-15/1



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		4969		M-15/1		
GALLIPOLIS LOCK & DAM		INSTALLATION		SHEET 3		
		ORH-CD		OF 5 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		SANDSTONE			PULL # 5
	23					
	24				7	
	25					
					25.4	DEP 25.6
	26		SLK S.-m.h., m.gr. gratling into ICL			PULL # 6 START 7:15 END 7:23 TIME 8 DRL 8 RAN 3.9 REC 4.5 LOSS 0 UNHCC 0
	27				8	
	28					
	29		ICL R.br/greenish gr. 5 SLK, GRM.			PULL # 7 START 7:35 END 7:55 TIME 20 DRL 20 RAN 0.0 REC 4.5 LOSS 0 UNHCC 0
	30				29.1	DEP 29.3
	31					
	32				9	PULL # 8 START 9:00 END 9:27 TIME 27 DRL 27 RAN 2.5 REC 4.1 LOSS 0 UNHCC 0
	33				32.3	
					10	
463.2			Bottom HOLE		33.7	DEP 33.7
	34					

ENG FORM 1836-A  
JUN 67

GPO: 1968 O-7-325-243

PROJECT  
GALLIPOLIS LOCK & DAM  
HOLE NO.  
M-15/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		ORH		ORH-CD		SHEET 1 OF 3 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4 1/2" S	
3. DRILLING AGENCY		MONO R-15 STA 8+72.8		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		17-15/2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		DOWELL MORRIS		14. TOTAL NUMBER CORE BOXES		10	
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		16. DATE HOLE		STARTED 1/5/89 COMPLETED 1/6/89	
7. THICKNESS OF OVERBURDEN		0 496.7		17. ELEVATION TOP OF HOLE		496.9	
8. DEPTH DRILLED INTO ROCK		33.2		18. TOTAL CORE RECOVERY FOR BORING		33.2	
9. TOTAL DEPTH OF HOLE		463.7		19. SIGNATURE OF INSPECTOR		LMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SANDSTONE shy, m.-c.g. m.h., m.g.R CLOSELY SPACED HOR PTGS. 0.0- 1.9; CL. CON. IRR FT. @ 3.1			PULL #1  START 5:15 END 5:30 TIME 75min DR 15min RAIN 5.0 LEC 4.7 RCS 3.4 UNREC 8	
493.5	4		CLS/ICK GR.-GREENISH GR. S-m.h. V.S. & bkn 3.4-4.2 1/0. + L.C (H. sch) GRAD. into CLS	3.7		DEP 5.0 UNREC 1	
491.6	6		SLS S2, m.h., m.c.h. h., IRR, IT 6.0-7.2 PTGS @ 7.7 & 8.3 grading into sandstone	7.6		PULL #2  START 5:45 END 6:15 TIME 75min DR 20min RAIN 7.4 LEC 8.4 RCS 1.0 UNREC 5	
	10		(CONT)	(CONT)		(CONT)	

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
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PROJECT

Gallipolis Lock & Dam M15/2

HOLE NO.

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		SANDSTONE			PULL #2
	11		SLY, fig, m.h., m.g w/ dk. gr sly. stgs ! 20s hor. ptgs w/ 4R grid @ 11.0 ! 11.1 grading into SLS		3	
	12				11.4	
483.9	13		SLS.		4	
	14		SH, mlt, dk. gr, sh sly hor ptgs @ 14.4; bkn cmech) 14.6-14.8 grading into SS.			T/DEP 13.5
	15				14.8	
	16					DEP 15.1
480.5	17		SANDSTONE			PULL #3
	18		SLY, fig, m.h. m.gr. dk SLS lam & 20s. 0.2 LC btwn 13.5- 21.6 (?) 0 HOR CON + HET		5	START 6:35 END 6:55 TIME 20 min DEL 20 min RAW 6.5 REC 7.9 LOSS 0.2 UNREC 0
	19				18.7	
	20				6	
	21					
	22		(CONT)	(CONT)	(CONT)	DEP: T/DEP 21.6

ENG FORM 1836-A  
JAN 67

QPD: 1049 OF-328-243

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. M-15/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCKS & DAM		ORH-CD		3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		SANDSTONE		22.2	PULL #4
	23					START 7:20
473.5						END 7:50
			SLT M. DK. GR., m.h.			TIME 30 MIN
472.8	24				7	DRL 30 MIN
			CLS			RHU 8.6
			M-DK, GR, S.-M.H.			REC 8.1
	25					LOSS 0.3
						WACC 0
	26				26.0	
469.9	27		ICL			
			GREENISH GR. - L. BR.		8	
	28		S., SLK BKN.			
			0.3 LC 29.3-30.0			
	29				29.5	
	30					T/DEP 30
						DEP 30.7
	31				9	PULL #5
						START 8:00 LOSS 0
						END 8:25 WACC 0
						TIME 25
						DRL 25
						RHU 5.5
						REC 2.3
	32				32.3	DEP T/DEP 32.3
						PULL #6
	33				10	START 8:35 RHU ?
463.7						END 8:50 REC 0
						TIME 15
						DRL 15
						REC 0
					33.2	DEP T/DEP 33.2
			BOTTOM HOLE			

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-328-343

PROJECT

GALLIPOLIS LOCKS & DAM

HOLE NO.

M-15/2

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 3 SHEETS		
1. PROJECT GALLIPOLIS LOCK & DAM		ORD	ORH-CD	10. SIZE AND TYPE OF BIT 4" X 5 1/2"		
2. LOCATION (Coordinate or Station) MONO M-16 STA 8+64.3				11. DAYUM FOR ELEVATION SHOWN (FEET or METER) M. S. L.		
3. DRILLING AGENCY W. G. THOMAS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE		
4. HOLE NO. (As shown on drawing title and file number) M-16/1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN N/A	UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 10		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		
7. THICKNESS OF OVERBURDEN 0 496.9				16. DATE HOLE STARTED 1/5/89 COMPLETED 15/89		
8. DEPTH DRILLED INTO ROCK 33.4				17. ELEVATION TOP OF HOLE 496.9		
9. TOTAL DEPTH OF HOLE 463.5				18. TOTAL CORE RECOVERY FOR BORING 33.4 %		
				19. SIGNATURE OF INSPECTOR DAVID NUGEN		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE SHY, M. - S.G. ; M.H. M. GR SEU, NEAR HOR DTGS		1	PULL #1  START 9:54 END 10:27 TIME 33 min DRL 33 min RFN 4.8 REC 4.2 LOSS .04 UNACC 0.0
494.3	3		CLAY S. M. - T. R. - E. BR. S. GR. CL. CONTACT @ 2.6 - 3.3 W/O. 3 L.C.		3.9	
491.9	5		SLT OCC. SH. M. DK. FR. M. H. M. H. DTGS @ 6.1 : 6.3 GRADING SH W/O. 5-11 BKN. HIG. 3 EKR HA. - UCR FRACS. BTWN 8.6 : 10.2 W/ DK. GR. - L. P. H. DTGS @ 9.9, 10.0 : 10.2.		2.6	
	6				2	PULL #2  START 10:55 END 11:15 TIME 20 DRL 20 RFN 3.7 REC 4.0 LOSS 0 UNACC 0
	7				3	DEPT 17/DEP 8.5 PULL #3
	8					
	9					
	10		(CONT)		(CONT)	(CONT)

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-16/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 3 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-CD		M-16/1		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
486.7	10		SANDSTONE SLY, Fig, m. h., m. g. Thin, hor. sly STGS, starting @ 11.5		3	PULL #3 START 3:42 END 3:55 TIME 13 min DRL 13 min RAN 9.0 REL 5.2 LOSS 0 UNACC 0
484.0	13		CLS DK. GR m. h. VE. BKN w/ dk. GR FLD. 13.0-13.4; SH 70 13.4-13.8 BKN C mech 14.3-15.8		4	T/DEP 13.5
481.1	16		SANDSTONE Fig, m. h., m. g. SLY mech. str @ 17.8 & 18.4 TRANS STARTING @ 21.4 0.1 LC. STUN 18.7. 23.6 (?)		5	DEP 16.5 PULL #4 START 4:10 REC 4.9 END 4:30 LOSS 0 TIME 20 UNACC 0 DRL 20 RAN 2.2
	18.7				6	T/DEP 18.6 DEP 18.7 PULL #5 START 4:45 END 5:00 TIME 15 DRL 15 RAN 5.0 REL 4.8 LOSS 0.1 UNACC 0
	22.0		(CONT)		22.0	(CONT)

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-248

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-16/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6 ALLIPOLIS Locks & DAM		ORH-CD		3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
473.3	23		SANDSTONE			
	24		CLS DK. GR., 5-m. hd 0.1 gr. CL @ 23.8- 23.9 V. BKN. 26.0- 26.8 GRADING INTO ICL		7	DEP 23.7 T/DEP 25.6  PULL #7  START 6:05 END 6:20 TIME 15 DRL 15 RHD 5.1 REC 4.3 LOSS 0.3 LIDACC 0
470.1	25				25.5	
	26					
	27		ICL - R-BN, S., SLK, OCC V. BKN.		8	
	28					
	29				29.1	
	30					
	31				9	
	32					
	33				32.6	
463.5	34		Bottom HOLE		33.4	T/DEP 33.4 DEP 33.8
	35					

ENG FORM  
JUN 67 1836-A

GPO: 1969 OF-335-243

PROJECT  
6 ALLIPOLIS Locks & Dam

HOLE NO.  
M-16/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>11-191-</u>	
1. PROJECT <u>Gallipolis Lock &amp; Dam</u>		<u>ORD</u>		<u>OPH-CD</u>		SHEET <u>1</u> OF 4 SHEETS	
2. LOCATION (Coordinate or Station) <u>MOND R-16 / STA 8+38.8</u>				10. SIZE AND TYPE OF BIT <u>4" X 5/8"</u>		11. DAYUM FOR ELEVATION SHOWN (YES or NO) <u>M.S.L</u>	
3. DRILLING AGENCY <u>W. B. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>M-16/2</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>POWELL NORRIS</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE		STARTED <u>11/6/89</u> COMPLETED <u>1/16/89</u>	
7. THICKNESS OF OVERBURDEN <u>0 496.9</u>				17. ELEVATION TOP OF HOLE <u>496.9</u>			
8. DEPTH DRILLED INTO ROCK <u>34.5</u>				18. TOTAL CORE RECOVERY FOR BORING <u>34.5</u>			
9. TOTAL DEPTH OF HOLE <u>462.4</u>				19. SIGNATURE OF INSPECTOR <u>JMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SANDSTONE SLY. m-c.g, m.h, MGR. SEU NEAR HOR PT'S.			PULL #1  START 6:00 END 6:15 TIME 15 DRL 15 1 RAN 5.0 REC 4.1 LOSS 1.0 UNACCL 0	
493.9	3		CLS/ICL GREENISH GR - RGR, S - m.h. 1.0 L.C (micch) 3.6-5.1 EKN 5.8-6.2		3.6		
	4					DEP 5.0 TDR 5.1	
	5						
	6				2	PULL #2  START 6:25 END 7:05 TIME 40 DRL 40 RAN 10.0 REC 9.6 7.9 LOSS 0	
489.0	7						
	8		SANDSTONE H.S. m.h, m.gr. w/ OCC CLS. con & HAM O. VERT, T. 7.9-9.6 IRK CONT. 8.6-9.6 8.6-9.9 CLS. PTGS 9.0, 9.1, 9.5, 9.8 Grading into SANDSTONE		3	UNACCL 0	
	9						
	10				(CONT)	(CONT)	

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT

Gallipolis Lock & Dam M-16/2

HOLE NO.



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock & DAM		ORH-CD		M-16/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		SANDSTONE			PULL #2
485.9	11				3	
	12		SLT SA, m.h.; m-dk. gr IRR p Tgs @ 11.8 12.3, 12.4; 12.5 (MECH)		11.7	
	13				4	
	14					T/DEP 14.7
	15					DED 15.0
	16				15.2	
480.1	17		SANDSTONE			PULL #3
	18		SLY. fig., m.h., m. gr +5°, 0, T, 17.6-17.8 BKN +5°, +.pm. 18.0 to 18.3 CLS to 20.1 20.8 w/ BKN CLS coa. 20.1, 20.2		5	START 7.15 END 7.45 TIME 30 DRL 30 RAIN 9.3 REC 10.3 LOSS 0 UNACC 0
	19				19.1	
	20				6	
	21					
	22		(Cont)		(Cont)	(Cont)

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-242

PROJECT GALLIPOLIS Lock & DAM HOLE NO. M-16/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6ALLIPOLIS LOCK: DAM		DRH-CD		3		
OF 4 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
474.7	22					PULL #3
	23		CLS S.M.GR. CL. W/ ROCK FRAGS 23.0 - 23.2		22.7	
	24					
	25				7	DEP: T/DEP 24.7
	26					PULL #4
	27				26.4	START 8.40 ENCL 9.30 TIME 50 DRL 50 RAN 10.0 REC 9.5 LOSS 0 UNHCL 0
469.9	28		ICL R.B.L. - GREENISH GR, SLK u BKN Through		8	
	29					
	30				30.2	
	31					
	32				9	
	33					
	34		(CONT)	(CONT)		(CONT)

ENG FORM 1836-A  
JUN 47

GPO: 1965 OF-329-545

PROJECT

6ALLIPOLIS LOCK: DAM

HOLE NO.

M-1612



DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
1. PROJECT		ORD		ORH CD		11-1711	
2. LOCATION (Coordinates or Station)		Mons M-17 STA 8+288		10. SIZE AND TYPE OF BIT		4V54	
3. DRILLING AGENCY		W. G. JACOBS		11. DATUM FOR ELEVATION SHOWN (FBS or MSL)		M.S.L	
4. HOLE NO. (As shown on drawing title and site number)		M-17/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		DAVE HAPPEL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 296.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		33.3		16. DATE HOLE		STARTED 1/9/89 COMPLETED 1/9/89	
9. TOTAL DEPTH OF HOLE		463.5		17. ELEVATION TOP OF HOLE		496.8	
				18. TOTAL CORE RECOVERY FOR BORING		33.3	
				19. SIGNATURE OF INSPECTOR		JMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.8	1		SANDSTONE GR. M. H. F. G. Bkn 0.0-1.5			PULL #1 START 9:30 END 9:55 TIME 25min DRL 25min RAW 4.7 REC 4.3 LOSS 1.4 UNAC 1.4
494.6	2		ICL P. BE. 2.2-3.5 F. BK 9922			
	3		993.3 GR. 9-9R, S, 36			
	4		SLK 98.5-485.7 BAND			
	5		P. BE. - GR. 9-9R			
	6					
	7					
	8					
	9					
	10					
	11					
	12					
484.0	13		SANDSTONE GR. F. G. M. H.			PULL #2 START 10:10 END 10:25 TIME 15min DRL 15min RAW 9.3 REC 4.3 LOSS 0 UNAC 0
	14					
	15					
	16					
	17					
479.2	18		SAS GR. M. - F. G. Bkn 17.6-20.2			PULL #3 START 10:40 END 11:09 TIME 29min DRL 29min RAW 9.4 REC 9.4 LOSS 0 UNAC 0
	19					
	20					
			(CONT)			PULL #4 START 11:22 END 11:55 TIME 23min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-17/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.8		Hole No. M-17/1	
PROJECT GALLIPOLIS Lock+Dam			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	20		SLS			PULL #5
	21		BKN 21.3-29.6		6	DRL 23min RAN 3.9 REC 3.9 LOSS 0 UNACQ 0
	22				21.3	D-C 22.3
	23					PULL #6
	24				7	START 12:30 END 1:30 TIME 60min DRL 60min
471.8	25		ICL		29.6	RAN 7.8 REC 7.6 LOSS .2 UNACQ .2
	26		P.B.P.S. SLS, MOTTLED		8	
	27		GR-G.N.G.R., BKN 25.0-33.0			
	28				28.9	
	29					
	30				9	D-C 29.9 PULL #7
	31					START 1:50 END 2:13 TIME 23min
	32				31.0	DRL 23min RAN 3.4 REC 3.4 LOSS 0 UNACQ 0
463.8	33		Bottom HOLE		33.3	D-C 33.3
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS Lock+Dam

HOLE NO.

M-17/1

DRILLING LOG		DIVISION	INSTALLATION	Hole No. <i>17-172</i>			
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT	SHEET 1 OF 3 SHEETS		
6ALLIPOLIS LOCK & DAM		M-17 STA 7+96B		4" X 5 1/2"			
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)			
W-6 JAGUE		M-17/2		M.S.L.			
5. NAME OF DRILLER		6. DIRECTION OF HOLE		12. MANUFACTURER'S DESIGNATION OF DRILL			
DOWELL NORRIS		<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		R-57 MIDDLE			
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN			
0 497.1		33.2		DISTURBED N/A UNDISTURBED N/A			
9. TOTAL DEPTH OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER			
463.9		10		N/A			
ELEVATION		DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
497.1	1			SANDSTONE.			PULL #1
	2			Sly., m. s., m. h., m. gr			START 22:15
	3			U BKN.			END 22:35
494.9	4			ICK - A. CR. S., SLK		1	TIME 20 min
	5			V.S. 2.2-2.4			DEL 20 min
	6						RAH 4.0
	7						REC 4.0
	8						LOSS 0
492.9	9					3.7	UNHCL 0
	10						DEP 3.9
	11			SLS			PULL #2
	12			SL, m. h., m. gr			START 22:45
	13			W/OCC SANDSTONE			END 23:00
	14			FOA VS. WEHD		2	TIME 15 min
	15			t.2; COA. AND. FTS			DEL 15 min
	16			W 4.8 GRACIN?			RAH 7.5
	17			MORE SAND W/			REC 7.5
	18			Depth		7.2	LOSS 0
	19						UNHCL 0
488.3	20			SLS/SS		3	
	21			INTERM. SLY			(CONT)
	22			t.1, m. h., m. gr			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT 6ALLIPOLIS LOCK & DAM HOLE NO. M 17/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 4971		Hole No. M-17/2	
PROJECT GALLIPOLIS LOCK 1 DAM			INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SL/SS		3	PULL #2
	11		SLs - sh, SA, m - DK GR 1/2 CBA. PTG. e 13.5 (CAVE IN) 0.1 LC. @ 13.1-13.2(?)	10.7		
	12				4	
484.0	13					
	14		SANDSTONE			PULL #3
	15		fig. m. n. m. g. within shy LAM. GRADING TO CLS			START 7:35
	16					END 7:56
	17				5	Time 21.0 min
	18					DEL 21.0 min
	19					RAN 6.1
	20					REC 6.0
	21					LOSS .01
	22					UNHCC 0
	23				6	
	24					DEP 19.6
	25					PULL #4
476.0	26				7	
	27		CLS. S. m h., m-dk. GR, occ shy			
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
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	99					
	100					

ENG FORM 1836-A  
JUN 67

SPD: 1968 OF-329-543

PROJECT GALLIPOLIS LOCK 1 DAM  
HOLE NO. M-17/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6ALLIPOLIS LOCK: DWN			497.1		M-17/2	
			ORH-CD		OF 3 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		CLS			
	23		S.-m. h, m-dk.			PULL #4
	24		GR, OCC SKY		8	START 8:10
						END 8:11
						TIME 31.0 min
					29.5	DEL 31.0 min
476.0	25					FIN 10.0
						REC 10.0
						LOSS 0
						UNACC 0
	26		ICL -		9	
			P.O.R, S, SLK, V			
			CKN.			
	27					
	28					
	29					
	30					DEP 29.6
						PULL #5
	31				10	START 9:05
						END 9:38
						TIME 33 min
						DEL 33 min
						RAU 33 min
	32				31.8	REC 3.6
						LOSS 0
						UNACC 0
	33		Bottom Hole		11	
463.9						DEP + TIDEP 33.2
	34					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-328-245

PROJECT

6ALLIPOLIS LOCK: DWN

HOLE NO.

M-17/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		GRH-CD		OF 3 SHEETS	
2. LOCATION (Coordinate or Station)		6ALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		2" YSK	
3. DRILLING AGENCY		W. B. J. HOUES		11. DAY OF ELEVATION SHOWN (Y or M)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-18/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 496.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		32.9		16. DATE HOLE		STARTED 1/6/89 COMPLETED 1/6/89	
9. TOTAL DEPTH OF HOLE		464.0		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		32.9	
				19. SIGNATURE OF INSPECTOR		LMO	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SANDSTONE SLY., M.-C.G., 1-1/4", M.G. SEV. WEAR AND PTGS			PULL #1  START 6:55 END 7:10 TIME 15 DRL 15 RAN 5.0 REC 4.7 LOSS 0 UNACC 0	
495.2	2		CLS / ICL S. M.-C.G. O.I.S., GR. 1.7-1.8, CLS BEGINNING @ 3.0		1		
	3						
	4				3.8		
492.0	5		SLS-SH, DR. GR. M.H. SH. CONTENT INCREASING w/ depth.			DEP 5.0 T/D 4.9	
	6		MECH. PTGS 2 9.0, 9.2 GRADING INTO SLS/SLS		2.	PULL #2  START 7:25 END 7:45 TIME 20 DRL 20 RAN 5.1 REC 4.7 LOSS 0 UNACC 0	
	7				7.3		
	8				3		
486.9	10					T/D 2.8	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT 6ALLIPOLIS LOCK & DAM HOLE NO. M-18/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.9		Hole No. M-18/1		
PROJECT Gallipolis Lock Dam		INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.9	10		SS/SLS		3	DEP 10.1 PULL #3 START 8.37 END 8.50 TIME 13 DRL 13 RAW 6.7 REC 4.0 LOSS 0 UNACC 0
	11		Interbedded, SS fig GR m.h., SLS, s-m.h. m. dk mech. PTGS @ 11.3, 11.9, 12.3. 02 LC btwn 9.8 AND 14.0 grading to SANDSTONE		11.0	
	12				4	
	13					
483.1	14		SANDSTONE, occ. SLY, fig., m.h., M. GR. : SEV. MECH PTGS BTWN 15.0' 23.0 W/O. 1.5 BTWN 14.0' 18.4 BKN w/s. GRCH. @ 23.0		14.6	T DEP 14.0
	15				5	
	16					DEP 16.7
	17					PULL #4 START 9.00 REC 4.3 END 9.20 LOSS 0.1 TIME 20 UNACC 0 DRL 20 RAW 2.3
	18				18.0	T DEP 18.4
	19					DEP 19.0
	20				6	PULL #5 START 7.52 END 7.52 TIME 20 DRL 20 RAW 4.0 REC 4.2 LOSS 0 UNACC 0
	21				21.3	
	22		(CONT)		7	(CONT)

ENG FORM 1836-A  
JAN 67

GPO 1969 O7-329-343

PROJECT

Gallipolis Lock Dam

HOLE NO.

M-18/1

DRILLING LOG (Cont Sheet)				496.9		Hole No. M-18/1	
PROJECT		INSTALLATION		SHEET		OF 3 SHEETS	
GALLIPOLIS LOCKS DAM		ORH-CD		3		3	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	22		SANDSTONE			TIDEP 22.6	
473.9	23					DEP 23.0	
	24		CLS, S. M. H., M-DK GR W/OCC. PTGS 5 CORE SPINS		7,	PULL #6	
	25					START 10:05 END 10:25 TIME 20 DRL 20	
	26				24.9	RAN 4.7 REC 5.1 LOSS 0 UNAC 0	
470.9	27		ICK S. M. H., SLK BKN 0.9 L.C. FROZEN BTWN 22.6 & 27.9		8,	DEP/TIDEP 27.7	
	28					PULL #7	
	29				28.6	START 10:45 END 11:05 TIME 20 DRL 20	
	30					RAN 5.2 REC 4.3 LOSS 0.9	
	31				9,	UNAC 0	
	32						
464.0	33		BOTTOM HOLE		32.9	DEP LT/DEP 32.9	
	34						

ENG FORM  
JUN 67 1836-A

GPO 1969 OF-329-243

PROJECT  
GALLIPOLIS LOCKS DAM  
HOLE NO  
M-18/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
PROJECT		ORD		ORH-CD		SHEET 1	
1. PROJECT		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" 15/8"	
2. LOCATION (Coordinates or Station)		MONG M-18 STA 7+54.8		11. DAY OF ELEVATION SHOWN (TBM or BBL)		M.S.L.	
3. DRILLING AGENCY		W. G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		M-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number)		M-18/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		A. TICE		14. TOTAL NUMBER CORE BOXES		10	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		0 496.9		16. DATE HOLE		STARTED 1/7/89 COMPLETED 1/7/89	
8. DEPTH DRILLED INTO ROCK		33.8		17. ELEVATION TOP OF HOLE		496.9	
9. TOTAL DEPTH OF HOLE		463.1		18. TOTAL CORE RECOVERY FOR BORING		33.0	
				19. SIGNATURE OF INSPECTOR		JMN	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9			SANDSTONE			PULL #1	
			M.G., M.H., M.G., BKN			START 10:15	
			THROUGHOUT			END 10:30	
475.8	1		ICK			TIME 15 min	
			R. GR - GREENISH		1	DRL 15 min	
	2		GR, S, SLK			RAN 5	
						REC 5	
	3					LOSS 0	
						UNACCL 0	
	4				3.7		
	5					DEP 5.0	
471.6			SLK		2	PULL #2	
			M. DRGR, M.H. OCC			START 10:58	
			SA GRADING SA			END 10:57	
			W/DEPTH 0.1 S. GR			TIME 19 min	
	7		CH. AT CONTACT			DRL 17 min	
					7.2	RAN 9.9	
	8					REC 9.9	
						LOSS 0	
	9					UNACCL 0	
486.9	10		(CONT)	(CONT)	3	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-18/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.9		Hole No. M-18/2		
PROJECT		INSTALLATION		SHEET 2		
6ALLIPOLIS LOCK & DAM		OPH-CD		OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SANDSTONE		3	PULL #2 (CONT.)
	11		SLY. F.G., M.H., M.S.R., MECH. PTG @ 13.7 & 13.8		10.9	
	12					
	13				4	
483.2						
	14		SS/SLT			
	15		INT. PLSD, MOSTLY SANDSTONE		14.5	DEF 14.9 PULL #3
	16					START 11:10 END 11:31 Time 21 min DRL 21 min RAN 24.6 REC 24.6 LOSS 0 WASH 0
	17				5	
	18				18.1	
	19					
	20				6	
	21					
475.1					21.8	
	22		C.L.S		7	

ENG FORM 1836-A  
JAN 67

GPO: 1968 OF-329-243

PROJECT 6ALLIPOLIS LOCK & DAM HOLE NO. M-18/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
GALLIPOLIS LOCK 1 DAM		ORH-CD		M-18/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		CLS			PULL #3 (CONT.)
	23		M.G.R. S. N.H. OCC. V. SKY V. BKN W/ GR. CL. COA @ 21.8-22.3	7		
	24					
472.3						DEP 24.6
	25		ICL		25.2	PULL #4
	26		GREENISH GR-RBR, S. SKY BECOMING REDDISH @ 26.5 V BKN TO BOTTOM OF HOLE 0.8 L.C. BTWN 29.6-33.8 (Misch)			START 12:54 END 13:17 TIME 53. min DRL 53. min RAN 8.4 REC 7.6 LOSS 0.8 UNREC 0
	27				8	
	28					
	29				29.1	
	30					
	31				9	
	32					
	33				32.6	
					10	
463.1			Bottom Hole		33.8	DEP 33.8
	34					

ENG FORM 1836-A JUN 67

GPO: 1969 OF-229-348

PROJECT GALLIPOLIS LOCK 1 DAM HOLE NO. M-18/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 3 SHEETS	
1. PROJECT		ORD		CRH-1.D			
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4" 1 1/2"	
3. DRILLING AGENCY		W. B. JAGUES		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M. SL	
4. HOLE NO. (As shown on drawing title and file number)		11-19/1		12. MANUFACTURER'S DESIGNATION OF DRILL		M-53 MOBILE	
5. NAME OF DRILLER		DAVID HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 496.9		15. ELEVATION GROUND WATER		NA	
8. DEPTH DRILLED INTO ROCK		32.9		16. DATE HOLE		STARTED 11/7/89 COMPLETED 11/7/89	
9. TOTAL DEPTH OF HOLE		464.0		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		32.9 %	
				19. SIGNATURE OF INSPECTOR		YMO	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SANDSTONE M.B., M.H., M.J.R.			PULL # 1 START 7:35 END 8:05 TIME 30 min DRL 30 min RAN 5.0 REL 5.0 LOSS 0 UNHCC 0	
495.3	2		ICK R. GR., GREENISH GR., S. SLK, LKN		1		
	3						
	4						
	5						
491.4	6		SLK Shy, S. M.H., M-DK GR., OLL, SH		2	DEP 5.0 PULL # 2 START 8:20 END 9:40 TIME 20 min DRL 20 min RAN 3.9 REL 3.9 LOSS 0 UNHCC 0	
	7		CLS LEN 7.2 - 7.6 BECOMING SA @ 7.6		2.2		
	8						
	9				3	DEP 5.9 PULL # 3	
	10		(CONT)	(CONT)	(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M 19/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.9		Hole No. M-19/1	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.1	10		SLT		3	PULL #3
	11		SANDSTONE		10.8	START 8:53 END 9:27 TIME 34 min DRL 34 min KAN 6 REC 84 LOSS 8 UNAC 8
	12		SLY fig, m.h., m.gr.		4	
	13		MECH. fig. @ 13.5			
482.4	14				14.5	
	15		SS/SLT		5	
	16		INTER bdd. mostly S.S.			
	17					DEP 17.7
479.2	18		SANDSTONE		18.2	PULL #4
	19		SLY. fig., m.h., m.gr.		6	START 9:40 END 10:03 TIME 23 min DRL 23 min KAN 6 REC 8.4 LOSS 0.1 UNAC 0
	20					
	21					
474.9	22		(CONT)		21.7 7 CONT	(CONT)

ENG FORM 1836-A  
JUN 67

GPO: 1969 OP-325-542

PROJECT

GALLIPOLIS LOCK & DAM M-19/1

HOLE NO.



DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 3 OF 3 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-CD		11-19/1		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	22		CLS			PULL #4
	23		M. -dk. gr., S. -mh.		7	
	24		shy OILC btwn			
			17.3' - 25.8			
	25					
	26				25.5	DEP 25.8
	27					PULL #5
469.4					8	START 10:20
	28		ICL			END 10:40
			R. BR., S. S. K			TIME 20 min
	29		O 9 LC btwn 25.8			DRK 20 min
			32.9			RHW 6
	30				29.0	REC 3.3
						LOSS 0
	31					UNACC 0
	32					DEP 29.1
						PULL #6
	33				9	START 11:00
						END 11:17
						TIME 17 min
						DRK 17 min
						RHW 6
						REC 7.9
						LOSS 0
						UNACC 0
464.0			Bottom Hole		32.9	DEPT/DPT 32.9
	34					

ENG FORM 1836-A JUN 67

GPO: 1965 OF-225-242

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. 11-19/1

Hole No. M-19/2A

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>OLD</u>	<u>ORN-CD</u>	10. SIZE AND TYPE OF BIT <u>4 VS. 5"</u>	
2. LOCATION (Coordinate or Station) <u>MONO M-9 STA 7+12.8</u>				11. DAYTIME FOR ELEVATION SHOWN (TSS or TMS) <u>M.S.L.</u>	
3. DRILLING AGENCY <u>W. G. JACQUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>	
4. HOLE NO. (As shown on drawing title and file number) <u>M-19/2A</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN
5. NAME OF DRILLER <u>DOWELL NORRIS</u>				14. TOTAL NUMBER CORE BOXES <u>6</u>	14. TOTAL NUMBER CORE BOXES <u>6</u>
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>	15. ELEVATION GROUND WATER <u>N/A</u>
7. THICKNESS OF OVERBURDEN <u>B 496.6</u>				16. DATE HOLE STARTED <u>1/24/89</u>	16. DATE HOLE COMPLETED <u>1/24/89</u>
8. DEPTH DRILLED INTO ROCK <u>18.3</u>				17. ELEVATION TOP OF HOLE <u>496.6</u>	17. ELEVATION TOP OF HOLE <u>496.6</u>
9. TOTAL DEPTH OF HOLE <u>478.3</u>				18. TOTAL CORE RECOVERY FOR BORING <u>18.3</u>	18. TOTAL CORE RECOVERY FOR BORING <u>18.3</u>
				19. SIGNATURE OF INSPECTOR <u>ZMD</u>	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
496.6	1		ICL mottled, s, w/sly		Box 1	PULL #1 START 3:15 END 3:30 TIME 15min DRL 15min UNACCL RAN 3.5 REC 3.5 LOSS 0
492.9	3.5				3.5	DEPT T DEP 3.5
	4		SLS m-dr. gr, s-m.h.		Box 2	PULL #2 START 3:40 END 4:00 TIME 20min DRL 20min RAN 4.0 REC 4.0 LOSS 0
	5		SA Len 7.2-7.5 w/ICL		7.2	UNACCL 0
	6		CONTACT @ 7.5 grading			T/DEP 7.5
	7		SA @ 18.2 s. ch. fld. contact		Box 3	
	8		@ 9.0			DEP 9.4
487.6	9		SANDSTONE			PULL #3
	10		Sly., f. m.g., m.h., m.		10.7	START 4:15 END 4:40 TIME 25min DRL 25min RAN 5.0
	11		gr 0.1, s. br. cl @ 12.5		Box 4	REC 5.0 LOSS 0 UNACCL 0
	12		MASS below 12.5			T/DEP 12.5
	13		w/occ mech. break			DEP 13.0
	14					PULL #4
	15				13.9	START 5:40 END 6:00 TIME 20min DRL 20min RAN 1.4 REC 1.4 LOSS 0 UNACCL 0
	16				Box 5	PULL #5
	17					START 6:20 END 6:59 TIME 37min DRL 37min RAN 4.4 REC 4.4 LOSS 0 UNACCL 0
478.3	18		BOTTOM HOLE		17.6 Box 6 18.3	T/DEP DEP 18.3
	19					
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-19/2A

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OPH-CD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4 1/2"	
3. DRILLING AGENCY		MOND M-19 STA 7112 B		11. DATUM FOR ELEVATION SHOWN (FBN or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		B-52 MOBILE	
5. NAME OF DRILLER		WAYNE TICE / DOWELL NARRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		11-19/2		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		496.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		33.2		16. DATE HOLE		STARTED 11/7/89 COMPLETED 11/7/89	
9. TOTAL DEPTH OF HOLE		463.7		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		32.9	
				19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9			CORE LOST DUE TO REDRILL OF HOLE.		Box 1	HOLE 1. DRILLED 17.6'	
495.8	1				Box 1	HOLE CAUCED IN. + REDRILLED / APPARENT HOLE	
	2		SLS		Box 1	PULL #1	
	3		M.H., M.D.K.G.E. U.BKN @		Box 1	START 19:00 RAN 3.2	
	4		W/ POSS LC. U.BKN. @		Box 1	END 19:20 REC 3.2	
	5		48 ± W/ POSS LC.		Box 1	TIME 20min LOSS 0	
491.9	5				Box 1	DRL 20min UNACC 0	
	6		SANDSTONE		Box 1	DEP 3.2	
	7		SLY., Fig., m.h., m.gr		Box 1	PULL #2	
	8		PTG @ 7.1 W/ TR. G.R. CL.		Box 1	START 19:50 UNACC 0	
	9		COG, GRADING U.S.A.		Box 1	END 19:57	
	10		@ 9.7 PTG. W/ TR. G.R.		Box 1	TIME 7min	
	11		CL @ 11.3 POSS LARGE		Box 1	DRL 7min	
	12		CORE LOSS below 11.3 + 14.1		Box 1	RAN 2.4 TIDEPS 6	
	13		BECOMING MASS below 14.1		Box 1	REC 2.4	
	14				Box 1	LOSS 0 DEP 6.4	
	15				Box 1	PULL #3	
	16				Box 1	START 3:30	
	17				Box 1	END 3:40	
	18				Box 1	TIME 10min	
	19				Box 1	DRL 10min	
	20				Box 1	RAN 5.0	
					Box 1	REC 0.4	
					Box 1	LOSS TIDEPS 10.4	
					Box 1	UNACC	
					Box 1	DEP 14.1	
					Box 1	PULL #4	
					Box 1	START 4:35	
					Box 1	END 4:55	
					Box 1	TIME 20min	
					Box 1	DRL 20min	
					Box 1	RAN 4.6	
					Box 1	REC 8.3	
					Box 1	LOSS 2.8	
					Box 1	UNACC 2.8	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-19/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			496.9		M-19/2	
GALLIPOLIS Lock & Dam			INSTALLATION		SHEET 2	
			ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		Box 6	PULL #5
	21					START 5:25
	22					END 6:10 LOSS -
474.6					22.3	TIME 35min UNAC -
	23		CLS/ICL			DRL 35min
	24		M-DK.G.P.S-M.H W/		Box 7	RAN -
	25		VE. S. 205: bkn - 22.3-26.0			REC 10.1
470.9					26.0	DEP/IDEP 24.4
	26					PULL #6
	27		ICL			START 6:45
	28		GREENISH GR.-R-BR,			END 7:00 LOSS -
	29		SLK. S.-M. 1			TIME 15min UNAC -
	30		0.5 LC (mech), 24.2-28.7			DRL 15min
	31		1.5 LC (mech)			RAN 3.3
	32		28.7-33.2		Box 8	REC 2.9
463.7					29.5	DEP/IDEP 27.7
	33		BOTTOM HOLE			PULL #7
	34					START 11/17/89 11:00
	35					END 11:15
	36					TIME 15min
	37					DRL 15min
	38				Box 9	RAN -
	39					REC 4.0
	40					LOSS ?
	41					UNAC ?
	42					
	43					
	44					
					33.2	DEP 33.2

ENG FORM 1836-A  
JUN 67

GPO: 1989 OF-337-543

PROJECT  
GALLIPOLIS Lock & Dam

HOLE NO.  
M-19/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 3 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4" X 5 1/2"			
2. LOCATION (Coordinates or Station) MONOLITH M-20 STA 3+80.8				11. DAYUM FOR ELEVATION SHOWN (FEET - INCHES) 15.1			
3. DRILLING AGENCY W.B. JACOUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-20/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER DAVID HARPER				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 1/9/89 COMPLETED 1/9/89	
7. THICKNESS OF OVERBURDEN 00 (496.8)				17. ELEVATION TOP OF HOLE 496.8			
8. DEPTH DRILLED INTO ROCK 33.9				18. TOTAL CORE RECOVERY FOR BORING 33.9			
9. TOTAL DEPTH OF HOLE 462.9				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.8	1		SANDSTONE m.g., m.h., m.g.R, 0.2 gr. ch. sec 1.3-1.5		Box 1	PULL #1 START 2:50 END 3:37 TIME 47 DRL 47 RAN 5.0 REC 4.3 LOSS .7 UNHCC 0 TH DEPTH 5.0 TD DEPTH 4.7 DWR GOOD COLOR GRAY	
494.8	2		ICK R.B.R, S., SLK, V.BKN, b 7 L.C. BTWN 3.3 & 4.7		3.5		
492.1	3					4.7 T.DEP	
	4					DEP 5.0	
	5		SLY CLY-SH, m.h., m-th. gr, cly, bkn (much) 9.2 - 9.8		2	PULL #2 START 3:37 END 3:50 TIME 13 DRL 13 RAN 41 REC 9.1 LOSS 0 UNHCC 0 DEP 9.1 TD DEP 9.2 DWR GOOD COLOR GRAY	
	6				7.6		
	7					T DEP 9.2	
	8					DEP 9.1	
	9					PULL #3	
487.0	10		SANDSTONE			(CONT)	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-20/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.8	Hole No. M-2011		
PROJECT GALLIPOLIS Locks + Dam			INSTALLATION DRH-CD		SHEET OF 2 SHEETS 3	
ELEVATION a 486.8	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		9.8-22.7 SANDSTONE - SLY, fig, M. h., M. gr much. ptg Q 12.3		4	PULL #3 START 4:00 END 4:18 Time 18 DRL 18 RAN 4.8 REC 1.8 LOSS 0 UNACC 0 DWR good COLOR GRAY
	11				10.8	
	12					
	13				5	T-Dep
	14					Dep 13.9
	15				14.4	PULL #4 START 4:30 END 4:40 Time 10 DRL 10 RAN 4.1 REC 1.8 LOSS 0 UNACC 0 DWR good COLOR GRAY
	16					
	17				6	T Dep 14.9
	18				17.9	Dep 18.0
	19					PULL #5 START 5:00 END 5:18 Time 18 DRL 18 RAN 4.3 REC 9.3 LOSS 0 UNACC 0 DWR good COLOR GRAY
	20				7	
	21				21.8	
	22				8	Dep. 24.3 T Dep 24.0
			(CONT)	(CONT)	(CONT)	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-328-243

PROJECT

GALLIPOLIS Locks + Dam

HOLE NO.

M-2011

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.8		Hole No. M-20/1		
PROJECT GALLIPOLIS LOCK & DAM		INSTALLATION ORH-CD		SHEET OF 3 SHEETS 3		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.1	22		SANDSTONE 9.8-22.7			PULL #5 START 5:00 END 5:18 SEE PG 2.
	23		CLS - S-M.H, M. DK, GR O.L GR. CL. SEC @ 23.4 22.7-25.2		8	
	24					
471.6	25					PULL #6 START 5:36 END 6:25 Time 49 DRH 49 RAW 8.5 REC 8.9 LOSS 0 UNACC 0 DEP 32.8 T-Dep 33.9 DWR GOOD COLOR GRAY
	26		ICL - GREENISH GR.-R. BR., S-SLT BKN. 25.2-33.9		25.4	
	27				9.	
	28					
	29				29.0	
	30				10.	
	31					
	32				32.5	DEP 32.8
	33					
462.9	34		Bottom Hole			T-Dep 33.9

ENG FORM 1836-A  
JUN 67

OPD 1969 OF-325-243

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-20/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>M-20/2</i>	
		<i>ORD</i>		<i>ORH-CD</i>		SHEET <i>1</i> OF <i>2</i> SHEETS	
1. PROJECT <i>GALLIPOLIS LOCK &amp; DAM</i>				10. SIZE AND TYPE OF BIT <i>4 X 5.5"</i>			
2. LOCATION (Coordinate or Station) <i>MONO M-20 STA (6+70) B</i>				11. DAYUM FOR ELEVATION SHOWN (FSM or IRL) <i>M.S.L.</i>			
3. DRILLING AGENCY <i>W. G. JAGUES</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-57 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>M-20/2</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i> UNDISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>A. TICE / D. NORRIS</i>				14. TOTAL NUMBER CORE BOXES <i>9</i>		15. ELEVATION GROUND WATER <i>NA</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE		STARTED <i>11/9/89</i> COMPLETED <i>11/13/89</i>	
7. THICKNESS OF OVERBURDEN <i>G 497.2</i>				17. ELEVATION TOP OF HOLE <i>497.2</i>			
8. DEPTH DRILLED INTO ROCK <i>34.5</i>				18. TOTAL CORE RECOVERY FOR BORING <i>34.5</i>			
9. TOTAL DEPTH OF HOLE <i>462.7</i>				19. SIGNATURE OF INSPECTOR <i>JMD</i>			

ELEVATION <i>a</i>	DEPTH <i>b</i>	LEGEND <i>c</i>	CLASSIFICATION OF MATERIALS (Description) <i>d</i>	% CORE RECOVERY <i>e</i>	BOX OR SAMPLE NO. <i>f</i>	REMARKS (Drilling time, water loss, depth of weathering, etc.; if significant) <i>g</i>
<i>497.2</i>			<i>SANDSTONE</i> <i>M.-L.G., m.h., m.gr. v.bkn</i> <i>0.0-3.0</i>			<i>PULL #1</i> <i>START 10:05 LOSS 0.7</i> <i>END 10:25 UNACCL 0.1</i> <i>TIME 15min</i> <i>DRL 15min</i>
<i>495.2</i>	<i>2</i>		<i>ICL</i> <i>GREENISH GR-R.BR., S</i> <i>SLK, VE. BK. 0.0-5.1</i> <i>W/ 1.9 LC.</i>		<i>Box 1</i>	<i>RAN 2.4</i> <i>REC 2.3</i> <i>DEP 3.0</i>
<i>492.1</i>	<i>5</i>		<i>CLS</i> <i>S. m.h., m.-dk.gr</i>		<i>5.1</i>	<i>PULL #2</i> <i>START 10:37 REC 0.9</i> <i>END 10:50 LOSS 1.2</i> <i>TIME 13min UNACCL</i> <i>DRL 13min</i> <i>RAN 2.4</i> <i>DEP 5.1</i>
<i>490.2</i>	<i>7</i>		<i>SLS</i> <i>S. -m.h., m. dk.gr</i>		<i>Box 2</i>	<i>PULL #3</i> <i>START 10:55 RAN 2.7</i> <i>END 11:10 REC 1.9</i> <i>TIME 15min LOSS 0</i> <i>DRL 15min UNACCL 0</i> <i>DEP 7.0</i>
<i>487.5</i>	<i>9</i>		<i>SLS</i> <i>S. -m.h., m. dk.gr</i>		<i>8.5</i>	<i>PULL #4</i> <i>START 12:00 RAN 2.7</i> <i>END 12:34 REC 2.0</i> <i>TIME 12min LOSS 0</i> <i>DRL 12min UNACCL 0</i> <i>DEP 9.0</i>
	<i>10</i>		<i>SANDSTONE</i> <i>SLY, fig. m.h., m.gr</i> <i>OCC VE SLY</i>		<i>Box 3</i>	<i>PULL #5</i> <i>START 12:55</i> <i>END 13:14</i> <i>TIME 19min</i> <i>DRL 19min</i> <i>RAN 13.3</i> <i>REC 6.0</i> <i>LOSS 0</i> <i>UNACCL 0</i> <i>DEP 15.0</i>
	<i>12</i>				<i>12.1</i>	
	<i>13</i>				<i>Box 4</i>	
	<i>14</i>					
	<i>15</i>				<i>15.7</i>	<i>PULL #6</i> <i>START 13:30</i> <i>END 13:48</i> <i>TIME 18min</i> <i>DRL 18min</i> <i>RAN 23.1</i>
	<i>16</i>				<i>Box 5</i>	
	<i>17</i>					
	<i>18</i>					
	<i>19</i>				<i>19.3</i>	
	<i>20</i>		<i>(CONT)</i>		<i>Box 6</i>	<i>(CONT)</i>

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT *GALLIPOLIS LOCK & DAM* HOLE NO. *M-20/2*



PROJECT GALLIPOLIS LOCK & DAM			T71.1 INSTALLATION ORH-CD		Hole No. M-20/2 SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE (CONT)		Box 6	PULL #6
	21				6	REC 8.5 LOSS 0 UNAC 0
474.9	22				22.8	
	23		CLS  S. m.h., m.-dk. gr VE bkn. 22.8-23.5 GRADING INTO		Box 7	DEP 23.5 PULL #7
	24					START 14:26 END 15:00 TIME 24 min
	25					DRL 24 min
470.6	26				26.4	
	27		ICL  R.br., S.-n.b., SLK  D+gs bkn w/1.2  L.C b+wn. 29.8-34.5		Box 8	RAN 29.8 REC 6.3 LOSS 0 UNAC 0
	28					DEP 29.8
	29					PULL #8
	30					START 15:35 UNAC 1.2
	31				Box 9	END 15:55 TIME 20 min
	32					DRL 20 min
	33					RAN 34.5 REC 3.5 LOSS 0
462.7	34		BOTTOM HOLE	34.5	DEP 34.5	
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-289-243

PROJECT  
GALLIPOLIS LOCK & DAM  
HOLE NO.  
M-20/2

DRILLING LOG		DIVISION	INSTALLATION	Hole No.	SHEET
1. PROJECT GALLIPOLIS LOCK & DAM		ORD	GRH-CD	11-211	OF 3 SHEETS
2. LOCATION (Coordinate or Station) M-21 STA 6+88		10. SIZE AND TYPE OF BIT 4 1/2"			
3. DRILLING AGENCY W.G. JACOBS		11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) M-211		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
5. NAME OF DRILLER DAVID HARPER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED: NA UNDISTURBED: NA			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES 7			
7. THICKNESS OF OVERBURDEN 0 497.5		15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 33.7		16. DATE HOLE STARTED 11/10/89 COMPLETED 11/10/89			
9. TOTAL DEPTH OF HOLE 463.6		17. ELEVATION TOP OF HOLE 497.5			
		18. TOTAL CORE RECOVERY FOR BORING 33.7			
		19. SIGNATURE OF INSPECTOR JMD			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5	1		SANDSTONE M.G., M.H., M.GR 6 KN 0.0-2.8			Pull #1 START 7:30 END 7:45 TIME 15min DRL 15min RAN 5.0 REC 4.3 LOSS 0 UNACL 0
494.7	3		ICL R. GR - GREENISH GR. S, SLK V.S. & COIN + NCT 2.8		3.7	TIDCP 9.3
491.8	4		CLS M - CL. GR, S - M.H. V. BLK + FINE GRAIN		2	Pull #2 START 8:29 END 8:40 TIME 11min DRL 11min RAN 4.6 REC 5.0 LOSS 0 UNACL 0
488.7	7		SANDSTONE (CONT)		3	TIDCP 9.3 D-PS 6 Pull #3 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. 11-211

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.5		Hole No. M-2111	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10				3	PULL #3 START 9:03 END 9:35 TIME 32min DRL 32min RAN 3.7 REC 5.2 LOSS 0 UNACC 0
	11		SHAND STONE		11.0	
	12		SLY, fig, m.h., m.g.			
	13		6KN. V SLY 8.8-9.6		4	
	14		MIECH PTGS 20.7, 21.3, 21.6, 21.7, 30.3			TIDP 18.5
	15		30.5 31.1 0.1 LC			
	16		0.7 WID 14.5, 15.7		14.5	DOP 19.5
	17					PULL #4 START 9:45 END 9:55 TIME 10min DRL 10min RAN 6.1 REC 9.3 LOSS 0.1 UNACC 0.1
	18				18.3	
	19					TIDP 18.5
	20				6	DOP 19.1 PULL #5 START 10:00 END 10:15 TIME 15min DRL 15min RAN 4.2 REC 5.2 LOSS 0 UNACC 0 (CONT)
	21				21.9	
	22		(CONT)			

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-337-343

PROJECT GALLIPOLIS LOCK & DAM  
HOLE NO. M-2111

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET 3 OF 3 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.9	22		SANDSTONE			PULL#5
	23		CLS M-DK GR. S. SLY V BKN. 22.6-23.8		7	
	24		GRADING INTO ICL			TIDP 23.8 DCP 29.1 PULL#6
472.8	25		ICL			START 10:30 END 10:45 TIME 15 MIN
	26		R. BR. - GREENISH GR. S. - SLK C. Z LC L. T. W 24.1-29.3 1.1 LC. L. T. W 29.3- 33.9	25.4		DRL 15 MIN RAN 5.4 REC 5.0 LOSS 0.2 UNACCL 0.2
	27				8	
	28					
	29					
	30					
	31					
	32					
	33					
462.5	34		Bottom Hole	33.9		29.3 DCP 29.3 TIDP 29.2 PULL#7 START 11:00 END 11:20 TIME 20 MIN DRL 20 MIN RAN 4.8 REC 3.5 LOSS 1.1 UNACCL 1.1
	35					
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ENG FORM 1836-A  
JUN 67

GPO: 1968 OF-322-242

PROJECT

Gallipolis Lock & Dam

HOLE NO.

11-211

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		1 OF 4 SHEETS	
2. LOCATION (Coordinates or Station)		64110015 LOCK 1 DAM		10. SIZE AND TYPE OF BIT 4" X 5 1/2"			
3. DRILLING AGENCY		MONO M-211 STA 6428A		11. DATUM FOR ELEVATION SHOWN (FTH or MSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. E. JACQUES		12. MANUFACTURER'S DESIGNATION OF DRILL		M-53 MOBILE	
5. NAME OF DRILLER		ATICE / D. MORRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 497.5		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.5		16. DATE HOLE		STARTED 11/9/89 COMPLETED 11/9/89	
9. TOTAL DEPTH OF HOLE		460.0		17. ELEVATION TOP OF HOLE		497.5	
				18. TOTAL CORE RECOVERY FOR BORING		37.5	
				19. SIGNATURE OF INSPECTOR		J.M.A.	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.5	1		SANDSTONE M.G., M.H., M.G.R. V.D KN C.O. 1.4			PULL #1  START 13:45 END 14:05 TIME 20 MIN DRL 20 MIN LWD 4.5 REC 3.5 LOSS 1.0 WASTE 0	
496.1	2		ICL K.B.R. GREENISH GR, S., SLK V BKN, W.H.C LC BTWN 1.4-4.5		1		
493.0	5		CLS S.M.H., M.D.K. GR Grading into SLS		4.5	DEPT 4.5	
491.9	6		SLS SA, M.-d. (P.K.) M.H.		2	PULL 2  START 14:10 END 14:35 TIME 25 MIN DRL 25 MIN LWD 5.0 REC 5.0 LOSS 0 WASTE 0	
490.1	7		SANDSTONE FLY-FIG, M.H. M.G.R.		3.4		
485.0	10		CLS (CONT)		3	DEPT 2.5 PULL #3 (CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT 64110015 LOCK 1 DAM M-211 HOLE NO.

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6ALLIPOLIS LOCK & DAM			DRH-CD		2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	10		CLS			PULL #3
	11		DK. GR. W/SS LENS V. BK W/ 9 L.C.		4	START 14:50 END 15:02 TIME 12 MIN DRL 12 MIN RAN 6.0 REC 5.1 LOSS .9 UNACCL 0
485.0	12				12.6	
	13		SANDSTONE			
	14		SLY, FLS, M.H.,		5	
	15		M. SR MASS			DEP 15.5
	16				16.0	PULL #4
	17					START 15:20 END 15:28 TIME 8 MIN DRL 8 MIN RAN 4.3 REC 4.3 LOSS 0 UNACCL 0
	18				6	
	19					
	20				19.6	
	21					PULL #5
	22				7	
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ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-327-343

PROJECT

6ALLIPOLIS LOCK & DAM

HOLE NO.

M-21/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6ALLIPOLIS LOCK DAM			ORH-CD		3 OF 4 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
475.4	22		CLS		7	PULL #5
	23		M-DK. GR., S-M.H.		22.9	START 16:00
			BKN			END 16:40
						TIME 40 min
						DRL 40 min
						RAN 8.8
						REC 8.7
						LOSS 11
						LIQUACC 0
473.3	24				8	
	25		SLK M. SK GR.			
			S-M.H. BKN			
	26				26.6	
472.0	27		ICL		9	DEP 25.5
			R. GR. - NEENISH			PULL #6
	28		GR, S. SLK			
	29				30.1	START 17:20
	30					END 17:50
						TIME 30 min
						DRL 30 min
						RAN 7
						REC 9
						LOSS 0
						LIQUACC 0
	31				10	
	32					
	33					
	34				33.7	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-548

PROJECT 6ALLIPOLIS LOCK DAM  
HOLE NO. M-21/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.5		Hole No. 11-21/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION OPH-CD		SHEET 4 OF 4 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL			PULL # 6
	35		R. BR - GREENISH			
			GR., S. SLK		10	
	36					
	37					
440			BOTTOM HOLE		37.5	DEP. 37.5
	38					
	39					
	40					

ENG FORM 1836-A  
JUN 47

GPO: 1948 OF-329-248

PROJECT GALLIPOLIS LOCK & DAM 11-21/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT		2. LOCATION (Coordinate or Station)		10. SIZE AND TYPE OF BIT		11. DAYUM FOR ELEVATION SHOWN (TBM or BML)	
GALLIPOLIS LOCK + DAM		MONO. 1-22 STA 6+80		4 X 5 1/2		MSL	
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
W.G. JAGUES		M-22/1		B-53		DISTURBED N/A	
5. NAME OF DRILLER		6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
DAVE HARPER		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		9		N/A	
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
0 497.9		33.9		STARTED 11/10/89		COMPLETED 11/10/89	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR		20. REMARKS	
463.5		33.9		JMD		(Drilling time, water loss, depth of weathering, etc., if significant)	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS	
497.4	1		SANDSTONE			PULL #1	
496.0	2		LT GR, -A, M-C.G. CAL CCN			START 7:20	
	3		BKN W/LK STAIN 0.0-0.9			END 7:50	
	4		CLS			TIME 30min	
	5		GR. S. CL @ TOP TOST		1	DRL 30min	
	6		@ BOTTOM, ANY PWS W/LK			RAN 4.8	
	7		3.0-3.1 SOIL ONLY BKN			REL 4.1	
	8		W/POSS LOSS 3.8-4.8		3.8	LOSS 0.7	
492.6	9					UNACCL 0.7	
	10		SLT			DCP 4.8	
	11		GR, S-M.H. 9 IN TENTIONAL			PULL #2	
	12		W/LK @ BOTTOM, SOIL ONLY		2	START 8:10	
	13		RUN 4.8-6.2 HIGH ANY FAN			END 8:23	
	14		6.3-7.0, 7.3-7.6, LOW ANY			TIME 15min	
	15		FAN 15° W/LK 7.8-7.9			DRL 15min	
	16		Fg SS 10.6-10.9		7.9	RAN 4.2 UNACCL 0.9	
	17					REL 3.8	
	18					LOSS 0.9	
	19					DCP + TIDCP 9.0	
486.0	20					PULL #3	
	21		SANDSTONE			START 8:40	
	22		3 R-LTGR, M.H.-H. F.M.S.			END 9:00	
	23		CAL CCN, 11.9-13.9, HIGH ANY			TIME 20min	
	24		J.T. 45°, 3.1-13.9 ELN PWS			DRL 20min	
	25		W/ 0.5 SPACING, D-10W16.3			RAN 3.5	
	26				11.4	REL 3.5	
	27					LOSS 0	
	28					UNACCL 0	
	29					D-2 + TIDCP 12.5	
477.5	30					PULL #4	
	31					START 9:10	
	32					END 9:35	
	33					TIME 25min	
	34					DRL 25min	
	35					RAN 3.8	
	36				14.9	REL 3.8	
	37					LOSS 0	
	38					UNACCL 0	
	39					D-2 + TIDCP 16.3	
	40					PULL #5	
	41					START 9:53	
	42					END 10:17	
	43					TIME 29min	
	44					DRL 29min	
	45				18.5	RAN 8.5	
	46				6	REL 8.5	
	47				60.0		
	48					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-22/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock & Dam		ORHED		M-22/1		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21		SP. S, SH, BKN PNS w/ 10.3		6	LOSS 0
	22		SPACING C/S 5.2, S-UES.			UNACD
	23		22.9-23.3, BKN 29.3-29.7		22.1	
	24		25.2-25.7			
	25				7	
	26					DEPT T/D-P 25.2
470.9					25.8	PULL #6
	27		ICL			START 10:26
	28		R. BR S-UES., OCC. MATHW		8	END 10:45
	29		W/ 9 P. GNSR, W/ OCC S/LK			TIME 20 min
	30		S/LT + LOSS P 28.9, CL B-100			DAL 20 min
	31		BKN 27.8; 28.1, 39.1, MATH			PAN 5.9
	32		SPIN 23.0			ESL 3.2
	33					LOSS 0.2
463.5						UNAC 0.2
	34		Bottom Hole		22.5	DEPT T/D-P 28.6
	35					PULL #7
	36					START 11:00
	37					END 11:40
	38				9	TIME 90 min
	39					DAL 90 min
	40					PAN 5.3
	41					RRL 4.4
	42					LOSS 0.9
	43					UNAC 0.9
	44				33.9	DEPT T/D-P 33.9

ENG FORM  
JUN 67

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS Lock & Dam

HOLE NO.

M-22/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (FSS or MSL)	
6ALLIPOLIS LOCK + DAM		MONO M-22 STA 5+86A		4X5X		M.S.L	
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
W. G. JAGUES		M-22/2		B-57 MOBILE		DISTURBED N/A	
5. NAME OF DRILLER		6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
DOWELL NORRIS		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		10		N/A	
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
497.5		39.6		11/9/89		497.5	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR		20. COMPLETED	
463.9		34.6		LMD		11/10/89	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.5	1		SANDSTONE			PULL #1	
	2		LT. GR. H.-M.H. M.C.9			START 8:15	
	3		CL. CPM, SLIGHTLY BKN 0-1.0		1	END 8:35	
	4		BKN PARS. W/O.3 SPACE 1.0			TIME 20min	
497.2	5		CLS			DRL 20min	
	6		GR, S, OCC, MOTTLED W/R-BL		39	RAN 5.0	
	7		mod. BKN, THROUGHOUT			REL 5.0	
	8		SEVERELY BKN 3.9-4.1 4.7-5.0		2	LOSS 0	
490.3	9		S. 4-5.7			UNACC 0	
	10		SLS			50	
	11		GR. S-M.H. GRADATIONAL			PULL #2	
	12		W/SH @ TOP TO SQ @ BOTTOM		2	START 8:40	
	13		BKN @ 8.0-8.1, 9.1-9.3			END 10:00	
	14		SH-SEAM 17.8-17.9		7.2	TIME 80min	
	15		SG below 15.4			DRL 25 min	
	16				3	RAN 10.1	
	17					REL 9.7	
	18				4	LOSS 0	
	19					UNACC 0	
	20				11.0		
	21					TIDCPM.7	
	22				14.7	DCP 13.1	
479.5	23		SANDSTONE			PULL #3	
	24		LT. GR. M.H. M-F. GR.		5	START 10:45	
	25		CL CPM below 20.0			END 11:15	
	26		CONT			TIME 30min	
	27					DRL 30min	
	28				18.2	RAN 10.0	
	29				6	REL 10.0	
	30				(CONT)	LOSS 0	
	31					UNACC 0	
	32					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS LOCK + DAM M-22/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
6A1lipolis Lock + Dam		ORH-CP		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			PULL #3
	21				6	
475.8					21.5	
	22		SLs			
	23		GR, S-M.H. SH, BKN,			
	24		23.8-24.1		7	
	25					T/POT D-P 24.6
	26					PULL #4
470.5	27				25.5	START 7:48
	28		ICK			END 8:21
	29		R-BL, S-M.H. MOTTLED		8	TIME 33 min
	30		W/GR-G NGR, NUM SLK			DPL 33 min
	31		+ FRACTURES, SLT			RAN 4.9
	32					REC 4.9
	33					LOSS 0
	34					UNACC 0
464.9					28.9	D-P+TID-P 29.6
	35					PULL #5
	36				9	START 8:40
	37					END 9:19
	38					TIME 39 min
	39					DPL 39 min
	40					RAN 5.0
	41					REC 5.0
	42					LOSS 0
	43					UNACC 0
	44					D-P+TID-P 39.6
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ENG FORM  
JUN 67

1836-A

(SR 1110-1-1801)

GPO 1960 OF-628-603

PROJECT

6A1lipolis Lock + Dam

HOLE NO.

M-22/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORD-CD		1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4 X 5/8			
2. LOCATION (Coordinates or Station) MONO M-23 STA 5+76.8				11. DAYUM FOR ELEVATION SHOWN (FEM or MSL) M.S.L			
3. DRILLING AGENCY W. B. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOB/LE			
4. HOLE NO. (As shown on drawing title and file number) M-23/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 11/17/89 COMPLETED 11/17/89	
7. THICKNESS OF OVERBURDEN 0 497.3				17. ELEVATION TOP OF HOLE 497.3			
8. DEPTH DRILLED INTO ROCK 34.6				18. TOTAL CORE RECOVERY FOR BORING 34.6			
9. TOTAL DEPTH OF HOLE 462.7				19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.3	1		SANDSTONE F-migr, gr. lamination partings		1	PULL #1 START 12:57 END 12:57 TIME 10min DRL 10min RAN 4.7 REC 4.4 LOSS 0.3 UNAC 0.3	
494.1	3		ICL RED BR-gr F.95 M.H		3.5	DCP 4.7	
	4				2	PULL #2 START 13:01 END 13:38 TIME 37min DRL 37min RAN 10.0 REC 10.0 LOSS 0 UNAC 0	
491.2	6		SLS M-dkgn-gr F. ufrag thin bed, clay partings + on vertical faces		6.8		
	7				3		
	8				10.7		
	9				4		
	10				14.8		
	11				5	DCP 14.8 PULL #3 START 13:53 END 14:11 TIME 18min DRL 18min RAN 8.3 REC 8.0 LOSS 0.3 UNAC 0.3	
	12				6		
	13				(cont)	(cont)	
	14						
	15						
	16						
	17						
	18						
	19						
	20						
	21						
	22						
(CONT)				(CONT)		(CONT)	

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PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-23/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.3		Hole No. <u>A-23/1</u>	
PROJECT GALLIPOLIS LOCK+DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #3
	21				6	
	22				21.8	
	23					DEP 23.1
	24				7	PULL #4
	25					START 14:29
	26				25.2	END 14:56
471.3						TIME 32min
	27		ICL			DRL 32min
	28		R-BL, GR-GR, Fg. M.H.		8	RAN 9.3
	29		occ. SLK.			REC 9.3
	30				28.9	LOSS 0
	31					UNACL 0
	32				9	
	33				32.4	DEP 32.4
	34					PULL #5
	35				10	START 15:08
	36					END 15:23
	37					TIME 15min
	38					DRL 15min
462.7			BOTTOM HOLE		34.6	RAN 2.2
	39					DEP 34.6
	40					REC 2.2
	41					LOSS 0
	42					UNACL 0
	43					
	44					

ENG FORM 1836-A (SR 1110-1-1801)

JUN 67

GPO 1980 OF - 828 - 503

PROJECT

GALLIPOLIS LOCK+DAM

HOLE NO.

A-23/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT <b>GALIPOLIS LOCK &amp; DAM</b>		ORD		ORH-CD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <b>MOND M-23 STA 5+44 B</b>				10. SIZE AND TYPE OF BIT <b>4" K56"</b>		11. DAY ON FOR ELEVATION SHOWN (TSS or REL) <b>7.5.6</b>	
3. DRILLING AGENCY <b>W. G. JAMES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>M-23/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DAVID HARPER</b>				14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <b>11/17/89</b>		COMPLETED <b>11/17/89</b>	
7. THICKNESS OF OVERBURDEN <b>497.1</b>				17. ELEVATION TOP OF HOLE <b>497.1</b>			
8. DEPTH DRILLED INTO ROCK <b>34.6</b>				18. TOTAL CORE RECOVERY FOR BORING <b>34.6</b>			
9. TOTAL DEPTH OF HOLE <b>462.5</b>				19. SIGNATURE OF INSPECTOR <b>IMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SCORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		SANDSTONE M-C.G., M.H., M.G.R. V.BKN, 0.0-3.2 w/0.2 L.C 0.2 M.G.R, S.C.L. 4.3-4.5		Box 1	PULL #1 START 1:43 END 1:50 TIME 7min DRL 7min RAN REC 4.3 LOSS 0.2 UNACC 0.2 DEP 5.0	
492.8	4		CLS S. M.H., M.-DK.G.R. PTS SHY M.SPACED HOR PTGS. 0.4 L.C. BTWN 4.5 & 9.4 GRADING INTO		Box 2	PULL #2 START 2:00 END 2:13 TIME 12 min DRL 13 min RAN REC 4.5 LOSS 0.4 UNACC 0.4 DEP 9.0	
	5				Box 3	PULL #3 START 2:22 END 2:40 TIME 18 min DRL 18 min RAN REC 8.9 LOSS 0.2 UNACC 0.2	
	6				Box 4		
	7				Box 5		
	8				Box 6		
	9				Box 7		
	10				Box 8		
	11				Box 9		
	12				Box 10		
	13				Box 11		
	14				Box 12		
	15		SLS/SS M-DK.G.R., S-M.H., PTS SHY, SS-SLY. FIG., M.H. M.G.R. 80° O., IRR JT. 14.3-15.2 0.2 SA LENS @ 16.3 0.2 L.C. BTWN 9.4 & 18.5 M. SPACED HOR PTGS W/ OCC CL COA.		Box 13	T/DEP 18.5 DEP 18.9	
	16				Box 14		
	17				Box 15		
	18				Box 16		
	19				Box 17		
	20				Box 18		
			(CONT)	(CONT)	(CONT)	(CONT)	

ENG FORM 1836  
MAR 71

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PROJECT  
GALIPOLIS LOCK & DAM

HOLE NO.  
M-23/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS LOCK DAM			497.1 ORHCO		M-23/2 2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SL5/SS		Box 6	PULL #4
	21				20.9	
475.1	22					START 2:50
	23		CLS		Box 7	END 3:24
	24		S. m. h, m. -dk. gr SPACED PTGS MAX. 5 0.1 LC BTWN 18.5 & 25.2			TIME 34 min
473.1	25					DEL 34 min
	26		ICL		24.8	RAN
	27		GREENISH-gr - R-62.5 mech. BKN		Box 8	REC 6.6
	28		V.S. 25.2 - 27.0			LOSS 0.1
	29		V. BKN. 29-30.3 (mech)			UNACC 0.1
	30		0.1 L.C. BTWN 30.4		27.9	T/DEP 25.2
	31		& 34.6			DEP 26.9
	32					PULL #5
	33					START 3:35
	34				Box 9	END 3:50
462.5	35		Bottom HOLE			TIME 15 min
	36					DEL 15 min
	37				Box 10	RAN 5.2
	38					REC 5.2
	39					LOSS 0
	40					UNACC 0
	41				34.6	T/DEP 30.3
	42					DEP 30.4
	43					PULL #6
	44					START 4:35
	45					END 4:45
	46					TIME 10 min
	47					DEL 10 min
	48				Box 10	RAN 4.9
	49					REC 4.5
	50					LOSS 0.1
	51					UNACC 0.1
	52				34.6	T/DEP 34.6
	53					DEP 35.2
	54					
	55					
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ENG FORM 1836-A  
JUN 67

SPO: 1968 OF-229-548

PROJECT  
GALLIPOLIS LOCK DAM  
HOLE NO.  
M-23/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT <b>GALLI POLIS LOCK &amp; DAM</b>		OPD		ORH-LD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <b>MONO M-24 STA 5734B</b>				10. SIZE AND TYPE OF BIT <b>4"X55"</b>			
3. DRILLING AGENCY <b>W.G. JAGUES</b>				11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>M-24/1</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
5. NAME OF DRILLER <b>DOWELL NORRIS</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>10</b>		UNDISTURBED <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>0 493.7</b>				15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>37.0</b>				16. DATE HOLE STARTED <b>11/17/89</b> COMPLETED <b>11/17/89</b>			
9. TOTAL DEPTH OF HOLE <b>456.7</b>				17. ELEVATION TOP OF HOLE <b>493.7</b>			
				18. TOTAL CORE RECOVERY FOR BORING <b>37.0</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
493.7	1		SANDSTONE			PULL #1	
	2		M.C.G., M.H., M.GR		Box 1	START 3:55	
	3		Closely spaced bed			END 4:20	
	4		PLN. PTGS 0.0-2.0			TIME 25min	
	5		0.2 CL. SC. @ 5.7-5.9 1/0.1			DRL 25min	
	6		L.C.		3.8	RAN 4.8	
	7					REC 5.3	
	8					LOSS -	
	9					UNACC -	
488.0	10		ICL/CLS		Box 2	DEP 5.3	
	11		S.M.H., M.-DK.GR w/occ			PULL #2	
	12		hor PTG.		7.4	START 4:25	
	13					END 4:50	
	14					TIME 25 min	
	15					DRL 25 min	
484.8	16		SLs		Box 3	RAN 10.0	
	17		sq, m.-dk gr. m.h. w/			REC 9.8	
	18		occ. S.S. lens 1/2 to m.		11.3	LOSS 0.1	
	19		SPACED shy PTGS			UNACC 0.1	
	20		GRADING MORE SA w/		Box 4		
	21		depth.		14.6	DEP 12.0 TIDED MK2	
	22					PULL #3	
	23				Box 5	START 5:05	
	24					END 5:25	
	25					TIME 20min	
	26					DRL 20min	
	27				18.5	RAN 10.0	
	28				Box 6	REC 9.1	
	29					LOSS .5	
	30				CONT	UNACC .5 (CONT)	

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PROJECT **GALLI POLIS LOCK & DAM** HOLE NO. **M-24/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock & Dam		ORH-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
972.0	20		SANDSTONE		Box 6	PULL #3 (CONT)
	21		SLY, fig, m.h., m.g.R			
	22		CLS		ZZ1	
	23		M: dk. gr, S. - m.h., w/		Box 7	
	24		Glosly spaced ptgs oc.			T/DEP 29.3
	25		GR CL. COA: 0.5 LC			DEP 29.8
	26		PROB below 21.7		25.8	PULL #4
	27		Grading into ICL		Box 8	START 5:45
	28					END 6:10
	29					TIME 25 min
						DRL 25 min
						RAN 9.5
						REC 9.0
						LOSS 0.7
463.9	30		ICL		29.5	UNAC 0.7
	31		R. br, S. - m.h., SLK		Box 9	
	32		0.7 CL. Between 24.3!			
	33		34.0		32.9	
	34					T/DEP 34.0
	35					DEP 34.3
	36				Box 10	PULL #5
						START 6:45
						END 6:50
						TIME 5 min
						DRL 5 min
						RAN 3.0
						REC 3.3
456.7	37		Bottom HOLE		37.0	LOSS 0
						T/DEP 37.0
						UNAC 0
						DEP 37.7
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1965 OF-329-243

PROJECT GALLIPOLIS Lock & Dam  
HOLE NO. M-24/1

ELEVATION		DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
<div style="display: flex; justify-content: space-between;"> <div> <p>1. PROJECT: <u>GALLI POLIS LOCK &amp; DAM</u></p> <p>2. LOCATION (Coordinate or Station): <u>MONO 11-22 STA 5+02.8</u></p> <p>3. DRILLING AGENCY: <u>W. G. JAMES</u></p> <p>4. HOLE NO. (As shown on drawing title and file number): <u>M-24/2</u></p> <p>5. NAME OF DRILLER: <u>STEVE FRY</u></p> <p>6. DIRECTION OF HOLE: <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.</p> <p>7. THICKNESS OF OVERBURDEN: <u>2</u> <u>193.3</u></p> <p>8. DEPTH DRILLED INTO ROCK: <u>36.1</u></p> <p>9. TOTAL DEPTH OF HOLE: <u>457.2</u></p> </div> <div> <p>10. SIZE AND TYPE OF BIT: <u>4" X 5.5"</u></p> <p>11. DAYUM FOR ELEVATION SHOWN (FEET - INCHES): <u>M.S.L.</u></p> <p>12. MANUFACTURER'S DESIGNATION OF DRILL: <u>B-53 MOBILE</u></p> <p>13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: <u>N/A</u> <u>N/A</u> <u>N/A</u></p> <p>14. TOTAL NUMBER CORE BOXES: <u>10</u></p> <p>15. ELEVATION GROUND WATER: <u>N/A</u></p> <p>16. DATE HOLE: <u>11/17/89</u> STARTED <u>11/17/89</u> COMPLETED</p> <p>17. ELEVATION TOP OF HOLE: <u>493.3</u></p> <p>18. TOTAL CORE RECOVERY FOR BORING: <u>36.1</u></p> <p>19. SIGNATURE OF INSPECTOR: <u>JMD</u></p> </div> </div>							
493.3	1			SANDSTONE M.-C.G., m.h., m.g.r. STA. 0.0-1.5; LEA LT.GR. 1.5-3.5: bkn 0.0-1.5;		Box 1	PULL #1 START 5:03 END 5:20 TIME 17min DRL 17min RAN 5.0 REC 4.9 LOSS — UNACC — DEP 5.0 T/DEP 9.9
488.3	5			CLS/ICK -S. m.h., m -dk.gr. VES. 5.0-6.3 46 4LS 6KN @ 7.3-7.5 closely SPACED PYS w/lt. gr. cl. LENS 7.9-8.6 grading into SLS		Box 2	PULL #2 START 5:40 END 6:04 TIME 16min DAL 16min RAN 5.2 REC 4.1 LOSS 0.4 UNACC 0.4 T/DEP 9.4 DEP 10.2
484.7	8			SLS SA, S.-m.h., m.-dk.gr PTS shy.: bkn 9.4. 9.8 (mech) w/0.2 LC. grading sq @ 11.6 shy. DTg @ 12.7 & 13.3 0.1 LC. (Prob mech) @ 14.0; sq contact increasing w/depth grading into SS.		Box 3	PULL #3 START 6:20 END 6:34 TIME 14min DRL 14min UNACC 0.2 RAN 4.0 REC 4.4 LOSS 0.2 T/DEP 14.0 DEP 14.0
475.7	17			SANDSTONE shy, fig, m.h., m.g.r. 0.1 S.G.R. CL. 15.0-15.9 CLOSELY SPACED (MAX. 6) (CONT)		Box 5	PULL #4 START 6:45 END 7:00 TIME 15min DRL 15min RAN 4.8 REC 4.7 LOSS 0.1 UNACC 0.1 T/DEP 18.8 DEP 18.0
	18					Box 6	PULL #5 (CONT)

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PROJECT: GALLI POLIS LOCK & DAM HOLE NO.: M-24/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK DAM			493.3		M-24/2	
			DRH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
472.1	20		SANDSTONE			PULL #5
	21		PTGS 19.2-21.1 GRADING			START 7:10
	22		CLS		6	END 7:30
	22		S. - m.h. m-dk gr			TIME 20 min
	22		U.S. 22.8-23.8; 24.1-24.4; 26.0-27.0 W/		22.1	DRL 20 min
	23		0.1 LC			RAN 5.1
	24					REL 3.0
	25				7	LOSS -
	26					UNAC -
	27					DEP 24.1 T/DEP 26.8
465.3	28		ICL			PULL #6
	29		GREENISH GR. - R. BR.		25.4	START 7:44
	30		SLK S. - m.h. bkn			END 7:55
	31		0.2 LC BTWN 33.7; 36.1			TIME 11 min
	32				8	DRL 11 min
	33					RAN 4.9
	34					REL 4.4
	35					LOSS 0.1
	36				28.8	UNAC 0.1 T/DEP 28.3
	37					DEP 27.0
	38					PULL #7
	39				9	START 8:40
	40					END 8:53
	41					TIME 13 min
	42					DRL 13 min
	43					RAN 4.8
	44					REL 5.4
	45					LOSS 0
	46				32.6	UNAC 0
	47					DEP/T/DEP 33.8
	48				10	PULL #8
	49					START 9:25
	50					END 9:38
	51					TIME 13 min
	52					DRL 13 min
	53					RAN 7
	54				36.1	REL 2.2 T/DEP 36.1
457.2	55		BOTTOM HOLE			DEP 37.0

ENG FORM 1836-A  
JAN 67

GPO: 1965 OF-325-565

PROJECT GALLIPOLIS LOCK DAM HOLE NO. M-24/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4 1/2"	
3. DRILLING AGENCY		M-25 STA 4+92 B		11. DATE FOR ELEVATION SHOWN (FWS or BSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. E. JAMES		12. MANUFACTURER'S DESIGNATION OF DRILL		R-57 MOD. 1E	
5. NAME OF DRILLER		DOWELL NORRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		493.3		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.3		16. DATE HOLE		STARTED 1/17/89 COMPLETED 1/17/89	
9. TOTAL DEPTH OF HOLE		456.0		17. ELEVATION TOP OF HOLE		493.3	
				18. TOTAL CORE RECOVERY FOR BORING		37.3	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
493.3	1		SANDSTONE			PULL #1	
	2		M.-LG., M. H., M. GR.			START 7:15	
	3		BKN 0.0-2.0 W/O. I.L.C.			END 7:30	
	4					TIME 15 min	
	5					DEL 15 min	
	6					RAN 4.9	
	7					REC 4.6	
	8					LOSS 0.1	
	9					UNACC 0.1	
488.6	10		CLS			TIDE P 4.7	
	11		M.-DK, GR, S.-M. H.			DEP 4.9	
	12		V.S. 4:7-6.0			PULL #2	
	13		GRADING			START 7:35	
486.0	14					END 7:50	
	15					TIME 15 min	
	16		SLs			DEL 15 min	
	17		SA., M.-DK. GR, S.-M. H.			RAN 10.0	
	18		MISPAKED, HOR, PFGs			REC 9.6	
	19		(MAX. LENGTH 0.8)			LOSS -	
	20		GRADING SANDY @ 9.6			UNACC -	
	21		HOR PFG @ 11.8				
	22		(13.4) 15.2 : GRADING				
	23						
	24						
	25						
	26						
	27						
	28						
	29						
	30						
477.5	31		SANDSTONE			PULL #3	
	32		SKY., FIG., M. H., M. GR			START 8:40	
	33		BKN W/HOR, IER, O. JT.			END 9:05	
	34		15.8-17.9 : SAME 19.0			TIME 25 min	
	35		- 20.4 : GRADING.			DEL 25 min	
	36					RAN 9.7	
	37					REC 10.5	
	38					LOSS -	
	39					UNACC -	
	40						
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ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-25/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No. M-25/1		
PROJECT			INSTALLATION	SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
472.9	20					PULL #3
	21		CLS		6	
	22		SLY. S.-M.h., m.-AK		24.9	
	23		GR SLT WEA HOR			
	24		PTGS 23.7' 23.9'		1	
	25		GRADING INTO			
	26				25.2	PULL #4
466.9	27		ICL			START 9:05
	28		GREENISH GR.-R.BR.,		8	END 9:40
	29		S-M.h. SLK, BKN			TIME 35 min
	30		THROUGHOUT		28.8	DRL 35 min
	31		0.6 LC BTWN 24.8'			RAN 9.1
	32		34.3 0.3 LC BTWN			REL 9.1
	33		34.3' 37.3			LOSS 0.6
	34					UNACC 0.6
	35				9	
	36				32.6	
	37					TIDEP 33.7
	38					DEP 36.3
	39					PULL #5
	40				10	START 10:15 REL 2.7
	41					END 10:20 LOSS 0.3
	42					TIME 5 min UNACC 0.3
	43					DRL 5 min
456	44		BOTTOM HOLE		37.3	RAN 20 TIDEP 37.3
	45					DEP 37.7

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-319-243

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
M-25/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK DAM				10. SIZE AND TYPE OF BIT 4.55"			
2. LOCATION (Coordinates or Station) MOND M-25 STA 4+60 B				11. DATUM FOR ELEVATION SHOWN (FSM or BBL) M.S.L.			
3. DRILLING AGENCY W. G. JABUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-25/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED N/A		UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 492.2				16. DATE HOLE STARTED 1/17/89 COMPLETED 1/18/89			
8. DEPTH DRILLED INTO ROCK 36.0				17. ELEVATION TOP OF HOLE 492.2			
9. TOTAL DEPTH OF HOLE 461.2				18. TOTAL CORE RECOVERY FOR BORING 36.0			
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
492.2	1		SANDSTONE			PULL #1	
	2		M.C.G., M.H., M.G.R.		Box 1	START 10:00	
	3		STA. BR. 0.0-1.0			END 10:15	
	4					TIME 15 min	
	5					DRL 15 min	
	6					RAN 4.5	
	7					REC 4.5	
493.2	8				3.9	LOSS 0	
	9		ICK			UNACC 0 TIDEP 4.5	
	10		S, SLK, R.B., GREENISH		Box 2	DEP 5.0	
	11		GR. grading into			PULL #2	
	12					START 10:10	
	13					END 10:32	
	14					TIME 12 min	
	15					DRL 12 min	
	16					RAN -	
490.2	17		SL5		7.2	REC 4.3 TIDEP 7.0	
	18		S.-M.H., M-CLK.G.R.,			LOSS 0	
	19		PTS. SHY. S.G.R. CL.		Box 3	UNACC 0	
	20		7.5-7.7; BKN 11.8-12.4			DEP 8.0	
	21					PULL #3	
	22					START 10:40	
	23					END 10:52	
	24				10.7	TIME 12 min	
	25					DRL 12 min	
	26					RAN 5.1	
	27				Box 4	REC 5.1	
484.5	28		SS/CL5			LOSS 0	
	29		Interbed			UNACC 0	
	30		SS - Pig., M.H., M.G.R.		13.9	TIDEP 13.2 DEP 14.0	
	31		CL5-S.J. M.H., M-CLK.G.R.			PULL #4	
	32		SHY. SS 12.4-15.3: CL5/SL5		Box 5	START 11:00	
	33		15.3-16.0: SS 16.0-17.0: 1"			END 11:16	
	34		S.G.R. CL5 17.0-19.1			TIME 16 min	
	35					DRL 16 min	
	36					RAN 5.4	
	37					REC 5.3	
	38				12.7	LOSS 0.1	
	39				Box 6	UNACC 0.1	
	40					DEP 19.3 TIDEP 19.2	
	41					PULL #5	
	42				19.8	(CONT)	

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PROJECT GALLIPOLIS LOCK DAM HOLE NO. M-25/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
GALLIPOLIS Lock & Dam				497.2		M-25/2	
				B2H-CD		OF SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
476.7	20		SSCL GRADING INTO		Box 7	PULL #5	
	21		CLS			START 7:35	
	22		S. M.H., M-CK.G.R.			END 8:16	
	23		pts shy w/CL. SC.			TIME 4 min	
	24		SPACED PTS. W/ AUC. 0.2			DRL 4 min	
	25		0.5 L.C. (M2CA) BTWN		23.5	RAN —	
	26		19.3' 28.0			REC 8.2	
	27				Box 8	LOSS 0	
	28					UNAC 0	
469.2	28				22.3		
	29		ICL		Box 9	T/DEP 28.0	
	30		VE-GR., S-M.H., SLK			DEP 28.9	
	31		6KN.		30.2	PULL #6	
	32					START 8:55	
	33					END 8:52 LOSS 0	
	34					TIME 13 min UNAC 0	
	35				Box 10	DRL 13 min	
	36					RAN —	
	37					REC 3.7	
	38					T/DEP 31.7	
	39					DEP 32.9	
	40					PULL #7	
	41					START 9:08	
	42					END 9:25	
	43				34.4	TIME 27 min	
	44					DRL 27 min	
	45				Box 11	RAN —	
	46					REC 4.0	
	47					LOSS 0.3	
	48				36.0	UNAC 0.3	
	49					T/DEP 36.0	
	50					DEP 36.9	
	51						
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ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-225-248

PROJECT  
GALLIPOLIS Lock & Dam  
HOLE NO.  
M-25/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLI POLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4154	
3. DRILLING AGENCY		MONO M-26 STA 4+50R		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-26/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		DOWELL NORRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 497.2		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.8		16. DATE HOLE		STARTED 11/17/87 COMPLETED 11/18/87	
9. TOTAL DEPTH OF HOLE		458.4		17. ELEVATION TOP OF HOLE		497.2	
				18. TOTAL CORE RECOVERY FOR BORING		38.7 %	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.2	1		SANDSTONE LT. GR. H, M-CG			PULL #1 START 10:45 END 10:50 TIME 5min DRL 5min RAW 5.0 REC 5.0 LOSS 0 UNAC 0	
492.5	2		FE SURFACE STAIN 0.0-1.0		1		
	3		SLIGHTLY BKN 0.0-1.9				
	4		CL-coated Bd Pn 2.9		39	LOSS 0 UNAC 0	
492.5	5		ICL		2	DPL 5.0 TIDP 4.9	
	6		Light BR. S. OCC BKN, GR 4.7-5.0 FC STAINED S.S. 0.5-1			PULL #2 START 7:15 END 8:12 TIME 57min DRL 57min RAW 10.0 REC 9.2 LOSS 0 UNAC 0	
490.3	7		SLS		79		
	8		GR, m. H-S, SA, BKN				
	9		6.8-7.2, 8.5-8.7, 12.3-12.9		3	LOSS 0 UNAC 0	
	10						
	11				113		
489.5	12						
	13		SANDSTONE		4		
	14		LTGR, m. H, F-MG				
	15		OCC SLS FRAG OR INCLUSIONS			DPL 15.1 TIDP 15.0	
	16		16.1-16.8		155	PULL #3 START 9:00 END 9:25 TIME 25min DRL 25min RAW 9.5 REC 9.5 LOSS 0 UNAC 0	
479.2	17				5		
	18		SLS				
	19		GR. m. H-S, SA ABOVE		191	LOSS 0 UNAC 0	
	20		(CONT)		6 (CONT)	(CONT)	

ENG FORM 1836  
MAR 71

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PROJECT

GALLI POLIS LOCK + DAM

HOLE NO.

M-26/1



DRILLING LOG		DIVISION	INSTALLATION		SHEET
1. PROJECT		ORD	ORH-CD		1 OF 2 SHEETS
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK + DAM			
3. DRILLING AGENCY		MND M-26 STA 4+18.8			
4. HOLE NO. (As shown on drawing title and file number)		W. G. JABUES			
5. NAME OF DRILLER		DAVE HARPER			
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			
7. THICKNESS OF OVERBURDEN		497.4			
8. DEPTH DRILLED INTO ROCK		38.9			
9. TOTAL DEPTH OF HOLE		458.5			
10. SIZE AND TYPE OF BIT		4 1/2"			
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		M.S.L.			
12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED N/A N/A			
14. TOTAL NUMBER CORE BOXES		10			
15. ELEVATION GROUND WATER		N/A			
16. DATE HOLE		STARTED COMPLETED 1/18/89 1/18/89			
17. ELEVATION TOP OF HOLE		497.4			
18. TOTAL CORE RECOVERY FOR BORING		38.9			
19. SIGNATURE OF INSPECTOR		L. J. D.			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
497.4	1		SANDSTONE			PULL #1
	2		LT. GR. - GR, M. N - H, M. - Cg.			START 9.55
	3		M. BKN @ SURFACE 0.0-1.0			END 10.05
	4		SH SCAM 1.6-1.7			TIME 12min
493.0	5					DPL 12min
	6					RAN 4.6
	7					REC 9.6
	8					LOSS @
	9					UNAC @ TIDP 9.5
	10					DEP 5.0
	11		ICL			PULL #2
	12		GR. S, SLT, MOTTLED W/ R-BR			START 10.25
	13		REL. W 6.2, S-UES, CL 9.9			END 10.35
	14		4.6, ANG PN W/SLK 4.8-5.1			TIME 10min
	15		7.0-7.3, MOD BKN W/SLK			DPL 10min
	16		5.6-6.2, 7.5-7.8			RAN 5.1
489.2	17					REC 5.1
	18					LOSS @
	19					UNAC @
	20					D-2 9.8 TIDP 9.7
	21		SLT			PULL #3
	22		GR. S - M. N, SA, BKN PN W/			START 10.49
	23		SPACE 0.4, ANG PN W/SLK			END 11.10
	24		ROOTING 8.5-8.7 F.G. SS			TIME 21min
	25		10.7-11.0, ANG PN W/SLK			DPL 21min
	26		12.9-13.1, 17.1-17.5, MOD			RAN 9.5
	27		BKN 13.9-19.3, 14.6-14.8, 17.1			REC 9.5
	28					LOSS @
	29					UNAC @
	30					PULL #4
479.4	31					START 11.10
	32					END 11.10
	33					TIME 21min
	34					DPL 21min
	35					RAN 9.5
	36					REC 9.5
	37					LOSS @
	38					UNAC @
	39					PULL #5
	40					START 11.10
	41					END 11.10
	42					TIME 21min
	43					DPL 21min
	44					RAN 9.5
	45					REC 9.5
	46					LOSS @
	47					UNAC @
	48					PULL #6
	49					START 11.10
	50					END 11.10
	51					TIME 21min
	52					DPL 21min
	53					RAN 9.5
	54					REC 9.5
	55					LOSS @
	56					UNAC @
	57					PULL #7
	58					START 11.10
	59					END 11.10
	60					TIME 21min
	61					DPL 21min
	62					RAN 9.5
	63					REC 9.5
	64					LOSS @
	65					UNAC @
	66					PULL #8
	67					START 11.10
	68					END 11.10
	69					TIME 21min
	70					DPL 21min
	71					RAN 9.5
	72					REC 9.5
	73					LOSS @
	74					UNAC @
	75					PULL #9
	76					START 11.10
	77					END 11.10
	78					TIME 21min
	79					DPL 21min
	80					RAN 9.5
	81					REC 9.5
	82					LOSS @
	83					UNAC @
	84					PULL #10
	85					START 11.10
	86					END 11.10
	87					TIME 21min
	88					DPL 21min
	89					RAN 9.5
	90					REC 9.5
	91					LOSS @
	92					UNAC @
	93					PULL #11
	94					START 11.10
	95					END 11.10
	96					TIME 21min
	97					DPL 21min
	98					RAN 9.5
	99					REC 9.5
	100					LOSS @
	101					UNAC @
	102					PULL #12
	103					START 11.10
	104					END 11.10
	105					TIME 21min
	106					DPL 21min
	107					RAN 9.5
	108					REC 9.5
	109					LOSS @
	110					UNAC @
	111					PULL #13
	112					START 11.10
	113					END 11.10
	114					TIME 21min
	115					DPL 21min
	116					RAN 9.5
	117					REC 9.5
	118					LOSS @
	119					UNAC @
	120					PULL #14
	121					START 11.10
	122					END 11.10
	123					TIME 21min
	124					DPL 21min
	125					RAN 9.5
	126					REC 9.5
	127					LOSS @
	128					UNAC @
	129					PULL #15
	130					START 11.10
	131					END 11.10
	132					TIME 21min
	133					DPL 21min
	134					RAN 9.5
	135					REC 9.5
	136					LOSS @
	137					UNAC @
	138					PULL #16
	139					START 11.10
	140					END 11.10
	141					TIME 21min
	142					DPL 21min
	143					RAN 9.5
	144					REC 9.5
	145					LOSS @
	146					UNAC @
	147					PULL #17
	148					START 11.10
	149					END 11.10
	150					TIME 21min
	151					DPL 21min
	152					RAN 9.5
	153					REC 9.5
	154					LOSS @
	155					UNAC @
	156					PULL #18
	157					START 11.10
	158					END 11.10
	159					TIME 21min
	160					DPL 21min
	161					RAN 9.5
	162					REC 9.5
	163					LOSS @
	164					UNAC @
	165					PULL #19
	166					START 11.10
	167					END 11.10
	168					TIME 21min
	169					DPL 21min
	170					RAN 9.5
	171					REC 9.5
	172					LOSS @
	173					UNAC @
	174					PULL #20
	175					START 11.10
	176					END 11.10
	177					TIME 21min
	178					DPL 21min
	179					RAN 9.5
	180					REC 9.5
	181					LOSS @
	182					UNAC @
	183					PULL #21
	184					START 11.10
	185					END 11.10
	186					TIME 21min
	187					DPL 21min
	188					RAN 9.5
	189					REC 9.5
	190					LOSS @
	191					UNAC @
	192					PULL #22
	193					START 11.10
	194					END 11.10
	195					TIME 21min
	196					DPL 21min
	197					RAN 9.5
	198					REC 9.5
	199					LOSS @
	200					UNAC @

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PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-26/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2	
GALLIPOLIS LOCK & DAM			ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
475.2	20		SANDSTONE		20.3	PULL #4
	21		18.0-19.2, CAL, CCN 19.9-20.1			START 11:20
	22		20.3-20.4 BLN SH, SCAM			END 11:50
	23		20.1-20.3			TIME 30min
	24		SLS			DPL 30min
	25		GR. M H-S, SH, BLN PWS		7	RAN 3.2
	26		0.2 spacing 3.3 L.C.			REC 1.9
	27		Mech BLN 22.9-22.7 w/lc			LOSS 1.8
	28					UNAC 1.8
	29					DDPT 23.5
468.3	29		ICL		25.3	PULL #5
	30		R. BR, S-M N, S-T, BLN			START 12:40
	31		32.0 + CL ABOVE, FANC W/			END 1:20
	32		S/LK THROUGHOUT			TIME 40min
	33		Mech BLN 29.1-30.5 w/lc			DPL 40min
	34		53.6-53.7 37.4-37.5, 38.2			RAN 4.6
	35		38.4			REC 3.3
	36				8	LOSS 3.3
	37					UNAC 3.3
	38					DDPT 29.0
	39					PULL #6
	40					START 1:50
	41					END 2:03
	42					TIME 15min
	43					DPL 15min
	44					RAN 1.2
	45					REC .9
	46					LOSS .8
	47					START 2:20
	48					END 2:35
	49					TIME 19min
	50				32.4	DPL 19min
	51					RAN 3.9
	52					REC 2.5
	53					LOSS .9
	54					UNAC .9
	55					DDPT 32.6
	56				9	PULL #8
	57					START 2:55
	58					END 3:10
	59					TIME 15min
	60					DPL 15min
	61					RAN 1.7
	62					REC .5
	63					LOSS 1.2
	64					UNAC .42
	65					DDPT 35.3
	66					PULL #9
	67					START 3:30
	68					END 16:00
	69					TIME 30min
	70					DPL 30min
	71				37.5	RAN 3.6
	72					REC 3.9
	73				10	LOSS 0.2
	74					UNAC 0.2
458.5	74		POTENTIAL		38.9	DDPT 38.9

ENG FORM  
AUG 67

1836-A

(BR 1110-1-1801)

GPO 1980 OF - 828 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

17-26/2

DRILLING LOG		DIVISION	INSTALLATION		SHEET	
1. PROJECT GALLIPOLIS LOCK & DAM		ORD	ORH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) MONO M-27 STA 4+0.8			10. SIZE AND TYPE OF BIT 41542		11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L	
3. DRILLING AGENCY W. G. JACOBS			12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-27/1			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE			14. TOTAL NUMBER CORE BOXES 10			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 497.1			16. DATE HOLE STARTED 1/18/87 COMPLETED 1/18/87			
8. DEPTH DRILLED INTO ROCK 40.0			17. ELEVATION TOP OF HOLE 497.1			
9. TOTAL DEPTH OF HOLE 457.1			18. TOTAL CORE RECOVERY FOR BORING 39.9			
			19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE LT.GR, H, M-CG, BKN DKS			PULL #1 START 11:30 END 11:37 TIME 7min DRL 7min RAN 5.1 REC 5.1
	2		W/OZ SPACING 0.0-2.9		1	
	3		W/1 FE STAINING THIN CL			
	4		STRINGERS 4.4-9.7		3.9	LOSS 0 UNACCL 0 TIDCP 9.7 DCPS.1
492.9	5		ICK R. BR, S, MOTTLED W/GR		2	PULL #2 START 12:12 END 13:11 TIME 59min DRL 59min RAN 4.3 REC 2.5 LOSS 1.8 UNACCL 0 DCP+TIDCP 9.9
	6		+9N-9R, OCC SLK, LTGR		7.3	
	7		CL 4.7-5.1, 6.6-7.0, 11.3-11.9			
	8		med BKN 5.1-5.4 W/SLK		3	
	9		7.0-9.9 W/LCLB, CORE DIA			
	10		LOSS 9.9-10.9, SLT 5.1-6.6		12.6	LOSS 0.1 UNACCL 0.1
	11					
	12					
	13					
482.9	14		CLS GR, S, SH, BKN W		4	PULL #3 START 13:18 END 13:35 TIME 17min DRL 17min RAN 4.9 REC 4.3 LOSS 0.1 UNACCL 0.1 DCP+TIDCP 15.8
	15		L.C. 15.0-16.6		16.0	
480.5	16		SANDSTONE GR, M, H, F.G, SASSNM		5	PULL #4 START 13:50 END 14:14 TIME 24min DRL 24min RAN 10.0 REC 9.5 LOSS 0.5 UNACCL 0.5
	17		18.0-18.1 BKN SLT 3.17H			
	18					
478.1	19		SLT (CONT)		19.2	(CONT)
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-27/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
Gallipolis Lock & Dam				497.1		M-271	
				DPH-C-D			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SLS				
	21		GR, S-M.H, sh, BKN			PULL #4	
	22		PNS ~ 0.5 spacing		6		
	23		BKN 20.0-20.1				
	24				23.8	T/D P 23.8	
	25					D/P 24.0	
471.1	26					PULL #5	
	27		ICL		7	START 14:40	
	28		R. BP, S-M.H, MOTTLED			END 15:24	
	29		W/GP-SNGR, OCC SLK			TIME 46 min	
	30		CL ABOVE 33.0 + 51T			DRL 46 min	
	31		below, CK 9A 27.3-29.2		27.3	RAW 7.7	
	32		SCURELY BKN W/LC			REL 7.0	
	33		0.7 31.3-31.5 (mech)			LOSS .7	
	34		mech BKN 31.5-31.8		8	UNACC .7	
	35				31.5	T/D P 31.5	
	36					D/P 32.3	
	37				9	PULL #6	
	38					START 15:45	
	39					END 16:10	
	40					TIME 35 min	
	41					DRL 35 min	
	42				55.3	RAW 7.9	
	43					REL 7.5	
	44					LOSS 0.9	
457.7	45				10	UNACC 0.9	
	46						
	47						
	48						
	49				37.4	T/D P 37.4	
	50					D/P 38.0	
	51						
	52						
	53						
	54						

ENG FORM 1836-A (REV 1110-1-1801) JUN 67 GPO 1980 OF - 628 - 603

PROJECT Gallipolis Lock & Dam HOLE NO. M-271

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		OPH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS Lock+Dam		10. SIZE AND TYPE OF BIT		4 X 5 1/4	
3. DRILLING AGENCY		MONO M-27 STA 3+76.8		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L	
4. HOLE NO. (As shown on drawing title and file number)		M-27/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		496.4		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		41.6		16. DATE HOLE		STARTED 1/18/89 COMPLETED 1/18/89	
9. TOTAL DEPTH OF HOLE		454.8		17. ELEVATION TOP OF HOLE		496.4	
				18. TOTAL CORE RECOVERY FOR BORING		39.2	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.4			SANDSTONE			PULL #1	
496.6			LT GR. M. C. 9.1, BKN			START 9.06	
	1		PNS W/SPACING 0.2			END 9.20	
	2		LIGHT FG STAIN			TIME 19min	
	3		ICL		1	DRL 19min	
	4		DR. R. BR, S-UES. CL, OCC			RAN 5.0	
	5		SLK OCC MOTTLED W/GR		3.8	REC 4.2	
	6		49 NGR CL, LTGR FATTY			LOSS 0	
	7		UC. S. 08-11, SEVERELY			UNACCL	
	8		BKN W/2.8 LOSS 4.2-9.1			TIDP 9.2	
487.3	9		SLK			D-C 9.0	
486.3	10		GR. S-M.H. SQ BKN 9.1-9.7		2	PULL #2	
	11		HIGH ANG AN 95° 10.0 10.1			START 9.29	
	12		CLS			END 9.46	
	13		GR. S, SA, SEVERELY BKN			TIME 17min	
	14		10.1-10.6 LTGR U.S. CLS			DRL 17min	
	15		11.6-12.1			RAN 1.5	
483.7	16		SLK			REC 2.1	
	17		GR. M.H-S SA, BKN		2.9	LOSS 0	
	18		PNS W/SPACING 0.3, CL 12.7			UNACCL	
	19		13.9, MID BKN 14.9-14.9			D-C 9.5	
	20		ANG PN, 45° 14.7-14.9		3	PULL #3	
	21		CORE DIA LOSS 15.5-16.6			START 5.00	
	22		SEVERELY BKN 17.6-18.1			END 5.10	
	23		18.5-18.7			TIME 10min	
	24		CONT			DRL 10min	
	25					RAN 2.5	
	26					REC -	
	27					LOSS -	
	28					UNACCL -	
	29					D-C 12.0	
	30				4	PULL #4	
	31					START 5.50	
	32					END 5.59	
	33					TIME 9min	
	34					DRL 9min	
	35					RAN 2.0	
	36					REC 1.0	
	37					LOSS -	
	38					UNACCL -	
	39					D-C 14.8	
	40				5	PULL #5	
	41					START 6.15	
	42					END 6.27	
	43					TIME 12min	
	44					DRL 12min	
	45					RAN 3.9	
	46					REC 5.0	
	47					UNACCL 0.9	
	48					LOSS 0.9	
	49					D-C 18.7	
	50				6	PULL #6	
	51					START 7.00	
	52					END 7.20	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS Lock+Dam HOLE NO. M-27/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.4		Hole No. M-27/2	
PROJECT GALLIPOLIS LOCK + DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL#6
	21				21.0	TIME 20 min DRL 20 min RAW 4.8 REL 3.2 LOSS - UNACL -
474.4	22					
	23		CLS DKGR, S, CL SUCCEEDLY BKN 22.6-23.0, 23.5-23.7		7	DEPRESS
472.7	24					
	25		ICL R.BR, S-M.H, SH, NUM FRAC		25.2	PULL#7 START 7:39 END 7:56 TIME 17 min DRL 17 min RAW 5.1 REL 4.8 LOSS - UNACL - DCD 28.9
	26		+ SAK, SUCCEEDLY BKN 23.7-			
	27		29.1, 27.2-27.9, 28.5-28.9		8	
	28		30.9-31.2, 32.0-32.3			
	29		RKN ABOVE 32.5		29.1	PULL#8 START 8:50 END 9:08 TIME 18 min DRL 18 min RAW 5.1 REL 4.8 LOSS - UNACL - DCD 33.5
	30					
	31				9	
	32					
	33				32.8	PULL#9 START 9:30 END 9:48 TIME 18 min DRL 18 min RAW 3.3 REL 2.8 LOSS 0.7 UNACL 0.7 DCD 34.8
	34					
	35				10	
	36					
459.1	37		BOTTOM HOLE		37.9	PULL#10 START 10:15 END 10:36 TIME 21 min DRL 21 min RAW 4.8 REL 4.6 LOSS - UNACL - DCD 40.6
	38				11	
	39				39.2	
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(REV 1110-1-1901)

GPO 1980 OF - 828 - 603

PROJECT

GALLIPOLIS LOCK + DAM

HOLE NO.

M-27/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		Gallipolis Lock + Dam		10. SIZE AND TYPE OF BIT		4XSV	
3. DRILLING AGENCY		Mond M-28 STA 3+66B		11. DATE FOR ELEVATION SHOWN (FWS or MSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-28/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		DOWELL MORRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		497.0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.9		16. DATE HOLE		STARTED 1/18/89 COMPLETED 1/18/89	
9. TOTAL DEPTH OF HOLE		457.6		17. ELEVATION TOP OF HOLE		497.0	
				18. TOTAL CORE RECOVERY FOR BORING		39.2 %	
				19. SIGNATURE OF INSPECTOR		TMM	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.0	1		SANDSTONE			PULL #1	
	2		LT. GR, H, M-CG, OCCASIONAL STAIN, BEN. PWS W/O. 9		1	START 4:45 END 5:00 TIME 15 MIN DEL 15 min RAN 3.9 REC 4.8	
499.1	3		CLS		3.8	LOSS 0.2 TIDP 3.9 UNACK 0.3 DCP 5.0	
	4		GR. S. SH BEN 3.4-3.6				
	5						
499.9	6		SANDSTONE		2	PULL #2	
	7		GR, M. H., F-VE FG. SLT			START 5:05 END 5:35 TIME 30 MIN	
	8		SLT, GR, M. H. SQ 6.1-6.5		7.4	DEL 30 min RAN 10.9 REC 9.9	
488.5	9		SLT			LOSS 0 UNACK 0	
	10		GR, S-M. H., SHA		3		
	11		SG 8.5-9.3, BEN, 13.4-				
	12		13.6, 15.3-15.3, CLS		11.2		
	13		SPHM 15.0-16.3				
	14				4		
	15				14.6	DCP 15.0 TIDP 4.0	
480.9	16				5	PULL #3	
	17		SANDSTONE			START 5:45 END 6:05 TIME 20 MIN	
479.2	18		GR, M. H., F-VE FG 16.6-18.8		17.2	DEL 20 min RAN 10.0 REC 10.1	
	19		SLT		6	LOSS 0 UNACK 0	
	20		GR, S-M. H., SHA		(CONT)	(CONT)	
			CONT				

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT Gallipolis Lock + Dam HOLE NO. M-28/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 497.0		Hole No. 1-2811	
PROJECT Gallipolis Lock & Dam				INSTALLATION OPH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		SLS		6		
	21		GR S-M.H. SA		210	Pull #3	
	22				7		
	23						
	24						
	25				25.1	DCP 24.8	
	26					DCP 25.1	
470.2					8	Pull #4	
	27		ICL			START 6:25	
	28		R. BR, S-M.H. SA, OCC			END 6:55	
	29		NOTTLED W/GR - SAND			TIME 30 MIN	
	30		NUM FINE W/SLK ABOVE		29.1	DRL 30 MIN	
	31		32.0, CLAY 28.7-32.0			RAN 10.0	
	32		GR + NOTTLED W/GR		9	REC R. 5	
	33		RECOV 27.7, BKN Slightly			LOSS 1.1	
	34		28.4-28.7, 30.1-30.8, 34.5			UNAC 1.1	
	35		-35.0		10	DCP 32.8	
	36					TIDP 35.0	
	37				37.4	Pull #5	
	38					START 7:15	
	39		Bottom Hole		11	END 7:35	
457.2						TIME 20 MIN	
	40					DRL 20 MIN	
	41					RAN 4.6	
	42					REC 3.8	
	43				39.2	LOSS 0.9	
	44					UNAC 0.9	
	45					TIDP 39.2	

ENG FORM  
JUN 67

1836-A

(SR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

1-2811

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORD-CD		1 OF 2 SHEETS	
1. PROJECT Gallipolis Lock & Dam				10. SIZE AND TYPE OF BIT 1 1/2"			
2. LOCATION (Coordinate or Station) MONO M-28 STA 3+40.8				11. DATUM FOR ELEVATION BOUND (TBM = BBL) M.S.L.			
3. DRILLING AGENCY W. G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-28/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 11/19/87 COMPLETED 11/19/87	
7. THICKNESS OF OVERBURDEN 0 496.7				17. ELEVATION TOP OF HOLE 496.7			
8. DEPTH DRILLED INTO ROCK 38.2				18. TOTAL CORE RECOVERY FOR BORING S			
9. TOTAL DEPTH OF HOLE 458.5				19. SIGNATURE OF INSPECTOR LMD			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDY CLY		Box	PULL #1
495.8			GR. SOFT		1	START 7:55
			SANDSTONE			END 8:08
	2		M.C.G, m.h, m.G.R.; LEA			TIME 13 min
489.2			H.G.R. 1.4-2.5			DEL 13 min
	3		ICK			RAN -
	4		R.D.R. mottled; S-M.H		3.8	REC 4.9
			SLK 0.2 FAT GR. 2.5			LOSS 0
			2.7 VE. S. 4.9-5.7 BKN		Box	UNALL 0
	5		VE S 6.6-7.3: BKN 7.3		2	DEPT T/ DEP 5.0
			9.1			PULL #2
	6					START 8:18
	7					END 8:35
	8				7.5	TIME 17 min
488.0						DEL 17 min
	9		SANDSTONE		Box	RAN -
	10		SLY; Fiq, m.h, m.G. WAK		3	REC 5.0
			GR SLK LAM.; VE BKN.			LOSS 0
	11		8.0-10.1 (mch grading)			UNALL 0
484.7			MORE SLY W/ DPTA		10.7	DEP 10.0 T/ DEP 9.9
	12					PULL #3
	13		CLS/ICK		Box	START 9:07
	14		S-M.H, m. CK. GR		4	END 9:37
			SLK VE. S 12.5-15.1			TIME 30 min
481.6	15		W 10.3 LCL.			DEL 30 min
						RAN -
	16		SLK/SS			REC 5.3
			Interbed, SLK PARTS		14.5	LOSS 0.3
	17		SLY; CLOSELY SPACED,			UNALL 0.3
			SLY. PTGS. 15.5-17.8		Box	T/ DEP 15.5
	18		(MARK 0.5) VE. SA.		5	DEP 16.3
			17.8-20.5 grading			PULL #4
	19					START 10:53 LOSS 0
	20		(CONT)		18.2	END 11:22 UNALL 0
						TIME 29 min
					Box	DEL 29 min
					6	RAN -
						REC 4.7

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
M-28/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		4967		M-28/2		
		22H-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.2	20		SL/S		Box 6	T/DEP 20.2
	21		CLS		6	DEP 20.5
	22		occ silty; shy, m-dk		21.3	PULL #5
	23		gr s-m.h. closely med		Box 7	START 12:00
	24		spaced say passible		7	END 12:35
	25		pty @ 23.6 grading			TIME 35 min
	26		into ICL			DRL 35 min
						RAN -
						REC 9.8
						LOSS B
					25.1	UNAC B
470.2	27		ICL		Box 8	
	28		s-m.h., gr. r. br, slx			
	29		grayish trans. from		28.9	
	30		cls to ICL 26.5-28.0		Box 9	DEP 30.1 T/DEP 30.0
	31		ve to med bkn to B/H			PULL #6
	32				32.2	START 12:46
	33					END 1:10 UNAC B
	34					TIME 29 min
	35					DRL 29 min
	36				Box 10	RAN -
	37					REC 4.8
						LOSS B
						DEP 39.9 T/DEP 39.8
	38		Bottom Hole		35.8	PULL #7
458.5	39					START 1:50
	40				Box 11	END 2:06
	41					TIME 16 min
	42					DRL 16 min
	43					RAN -
	44					REC 3.9
					38.2	LOSS B T/DEP 38.2
						UNAC B DEP 38.9

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-328-243

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-28/2

DRILLING LOG		DIVISION	INSTALLATION	SHEET		
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		<b>ORD</b>	<b>ORH-CD</b>	<b>7</b> OF 2 SHEETS		
2. LOCATION (Coordinates or Station) <b>MEND M-29</b>		10. SIZE AND TYPE OF BIT <b>4 1/2" "</b>				
3. DRILLING AGENCY <b>W. G. JAMES</b>		11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>				
4. HOLE NO. (As shown on drawing title and file number) <b>M-29/1</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>				
5. NAME OF DRILLER <b>DOWELL MORRIS</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <b>11</b>				
7. THICKNESS OF OVERBURDEN <b>0 496.9</b>		15. ELEVATION GROUND WATER <b>N/A</b>				
8. DEPTH DRILLED INTO ROCK <b>38.2</b>		16. DATE HOLE STARTED <b>1-18-89</b> COMPLETED <b>1-19-89</b>				
9. TOTAL DEPTH OF HOLE <b>458.7</b>		17. ELEVATION TOP OF HOLE <b>496.9</b>				
		18. TOTAL CORE RECOVERY FOR BORING <b>38.2</b>				
		19. SIGNATURE OF INSPECTOR <b>JMD</b>				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE		Box 1	PULL #1 START 8:40 END 8:45 TIME 5min DRL 5min RAN 5.0 REC 5.3 LOSS - UNACQ -
	2		M.C.G., M.H. M.G.R. BKN., STA (MAX PIECE 0.2) 0.0-0.7		3.7	
	3					
	4					
491.5	5				Box 2	DEP -5.0 TDEP 9.0
	6		ICL			PULL #2
	7		R. BR. GREENISH GR. S.-M.H. SLK, BKN		7.4	START 9:15 END 9:35 TIME 20min DRL 20min RAN 7.9 REC 10.0 LOSS - UNACQ -
	8					
	9		GRADING INTO		Box 3	
487.5	10		CLS			
	11		Shy, S.-M.H., M.G.R. PTG H.K.W. 1. HA, SLK, PTG 10.0-11.2		10.8	
485.7	12		SANDSTONE		Box 4	TDEP 12.9
	13		Shy, fig., M.H., M.G.R. Interbedded w/SLK, S.-M.H., M.-H.K.G.R. HA (80), O, PTs SHY, O, IRR; T 11.2-11.7: HA, O, JT. W/SLK. 11.8-12.1 ICL. 20. 13.6-14.1; S. 13.6-13.7, BKN, SLK 13.7-14.1 SLS 14.1-17.3: CLS 17.3-17.6 HA-VER, IRR, O, JT. 16.7-17.5 SS W/SLK/CLS incl ESTGS STARTING @ 17.6: SHY CLS		14.6	DEP 15.3
	14					
	15				Box 5	PULL #3
	16					START 9:45 END 10:05 TIME 20min DRL 20min RAN 11.0
	17				18.3	
	18				Box 6	
	19					
	20		(CONT)		(CONT)	(CONT)

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PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **M-29/1**

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No.	
PROJECT		INSTALLATION		SHEET 1 OF 2 SHEETS		
GALLIPOLIS Lock & DAM		ORH-CD		M-29/1		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.4	20				Box 6	PULL #3
	21		CLS			REC 9.8
	22		M.-DK. GR. S.-M.A. PTG		21.8	LOSS -
	23		SLY CORE SPM-E		Box 7	UNAC -
	24		20.5, CLOSELY SPACED HOR PTGS			
472.2	24					
	25		ICL			DEP 24.8
	26		GREENISH GR. - R.B.R.		25.4	T/DEP 25.1
	27		S.-M.A, BKN W/		Box 8	PULL #4
	28		SLK. 26.3-38.2			START 22:25
	29					END 22:50
	30					TIME 25min
	31				29.2	DEL 25min
	32					RAN 10.8
	33					REC 10.8
	34				Box 9	LOSS 0
	35					UNAC 0
	36					
	37				33.1	
	38				Box 10	DEP/T/DEP 25.9
	39					PULL #5
	40				34.5	START 7:45
	41				Box 11	END 8:10
	42					TIME 25min
	43				38.2	DEL 25min
	44					RAN -
			BOTTOM HOLE			REC 2.3
						LOSS 0
						UNAC 0
						DEP 42.7

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-242

PROJECT: GALLIPOLIS Lock & DAM  
HOLE NO.: M-29/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 7/16"			
2. LOCATION (Coordinate or Station) MONO M-29 STA 2189R				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY W.G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-29/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 11/19/89 COMPLETED 11/19/89	
7. THICKNESS OF OVERBURDEN 0 496.7				17. ELEVATION TOP OF HOLE 496.7			
8. DEPTH DRILLED INTO ROCK 37.8				18. TOTAL CORE RECOVERY FOR BORING 37.8			
9. TOTAL DEPTH OF HOLE 458.9				19. SIGNATURE OF INSPECTOR LMO			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.7	1		SANDSTONE M.-C.G., m.h., m.g.R. BKN (MECH) INTO SM-M. PIECES		Box 1	PULL #1 START 2:52 END 3:04 TIME 12min DRL 12min RAN - REC 4.8	
492.5	4				3.0	LOSS 0 UNAC 0 TIDEP 4.5	
	5		ICL		Box 2	DEP 3.1	
	6		S.-M.h., GREENISH-G.R.			PULL #2	
	7		SLK VE. S. 4.2-4.7: BKN into SM, SLK pieces		7.5	START 3:12 END 3:23 TIME 11min DRL 11min RAN -	
	8		4.7-6.0 M. SPACED, SLK		Box 3	REC 4.2	
	9		PTS 6.0-9.5 VE. BKN		3	LOSS 0	
	10		9.5-11.1			UNAC 0 DEP 9.7 TIDEP 9.8	
485.6	11				11.2	PULL #3 START 4:56 END 4:47 TIME 11min UNAC 0	
484.7	12		SANDSTONE SLY, m.g., m.h., m.g.R. 0.450 JT. 0 10.3 + 11.0		Box 4	DRL 11min RAN 5.5 REC 5.6 LOSS 0 DEP + TIDEP 14.7	
	13		ICL/SLS			PULL #4	
	14		S.M.h., M.-dk.g.R. SLK. VE BKN 12.0-16.0 W/ OCC. VE. S. g.R. CL. 18.1- 18.7		15.6	START 5:00 END 5:20 TIME 20min DRL 20min RAN 5.2 REC 6.1	
	15				Box 5	LOSS 0	
	16				15.6	UNAC 0	
477.9	17		SS/SLS		Box 6	DEPT TIDEP 19.6	
	18		INTERBDH, SS Fg. PTS. SAY (CONT)		(CONT)		
	19						
	20						

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-29/2





DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		1 1/2"	
3. DRILLING AGENCY		MOND M-50 STA 2+74.8		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. E. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		WAYNE TIGER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		M-30/1		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 496.5		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.8		16. DATE HOLE		STARTED 1/19/89 COMPLETED 1/19/89	
9. TOTAL DEPTH OF HOLE		458.7		17. ELEVATION TOP OF HOLE		496.5	
				18. TOTAL CORE RECOVERY FOR BORING		37.8	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.5	1		SANDSTONE		Box 1	PULL #1	
	2		M.-C.G., m.h., m.g.R.			START 8:50	
	3		BKN - 0.0 - 0.8			END 9:00	
493.4	4		CLS/ICK			TIME 10 min	
	5		S.M.H., M.-DK.GR. V.E.S.			DRL 10 min	
	6		0.0 CL. 3.1-3.3; S.3.3			RAN -	
	7		3.9; BKN. W/SLK			REC 4.5	
489.2	8		SURFACES 3.9-7.3		3.9	LOSS 0	
	9		(MAX PIECE 0.2)			UNACCL 0 T/DEP 4.5	
	10		SANDSTONE		Box 2	DEP 3.1	
	11		SLY, P.G., m.h., m.g.R.			PULL #2	
	12		W/CK G.R. SLY & SLAM			START 9:13	
486.8	13		0. H.A.T. 7.5-9.0			END 9:21	
	14		GRADING			TIME 8 min	
	15		CLS/SLS		7.7	DRL 8 min	
	16		M.-DK.GR., S.-M.H.,			RAN -	
	17		PTS. SLY W/CLASH			REC 5.2	
	18		SPACED SLK, HOR-		Box 3	LOSS 0	
	19		NEAR PTS W/STRIATIONS			UNACCL 0	
481.8	20		BECOMING SOFTER, MORE			DEP 9.7	
	21		CLAYIER @ 20' UEBKNSLT			T/DEP 9.8	
	22		12.0-13.8 GRADING			PULL #3	
	23		INTO		11.1	START 9:28	
	24		SLS			END 9:36	
	25		CLY.-M.-DK.GR., S.-M.H.		Box 4	TIME 8 min	
478.5	26		SANDSTONE			DRL 8 min UNACCL 0	
	27		SLY, P.G., m.h., m.g.R.			RAN -	
	28		3 GRADING			REC 5.0	
	29		(CONT)			LOSS 0	
	30				14.7	DEP 14.7	
	31				Box 5	PULL #4	
	32					START 9:44	
	33					END 9:54	
	34					TIME 10 min	
	35					DRL 10 min	
	36					RAN -	
	37					REC 4.9	
	38				18.5	LOSS 0	
	39				Box 6	UNACCL 0	
	40					DEP 14.6	
	41				(CONT)	PULL #5 (CONT)	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-30/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.5		Hole No. M-301	
PROJECT GALLIPOLIS LOCK DAM				INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		CLS/LS		Box 6	PULL #5	
	21		Interbed S.M.H. M. HGR			START 10:02	
	22		W/occ hop sky ptg. CLS			END 10:19	
	23		Increasing width		22.0	TIME 17min	
	24		Grading into		Box 7	DRL 17min	
	25					RAN —	
	26					REC 3.6 TIDEP 23.1	
	27					LOSS 0	
469.0						UNACCL 0 DEP 24.4	
	28		JCL			PULL #6	
	29		GREENISH GR. - R. BR.		25.5	START 10:28	
	30		S. M.H., W/occ.			END 10:43	
	31		SLK PTG.			TIME 15min	
	32				Box 8	DRL 15min UNACCL 0	
	33					RAN 0	
	34					REC 4.3 TIDEP 27.5	
	35					LOSS 0 DEP 28.0	
	36					PULL #7	
	37				29.2	START 10:50	
	38					END 11:40	
	39					TIME 50min	
	40				Box 9	DRL 50min UNACCL 0	
	41					RAN —	
	42					REC 5.1	
	43					LOSS 0	
	44				32.6	DEP + TIDEP 32.6	
	45					PULL #8	
	46				Box 10	START 12:34	
	47					END 12:55	
	48					TIME 21min	
	49					DRL 21min	
	50					RAN —	
	51				36.0	REC 5.2	
	52				Box 11	LOSS 0	
	53					UNACCL 0	
458.7			Bottom Hole		37.8	DEP + TIDEP 37.8	

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-220-243

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO.  
M-301

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT				10. SIZE AND TYPE OF BIT			
GALLI POLIS LOCK & DAM				4 1/2"			
2. LOCATION (Coordinate or Station)				11. DAY OF YEAR FOR ELEVATION SHOWN (798 or 1988)			
MND M-30 Z+40 B				M.S.L.			
3. DRILLING AGENCY				12. MANUFACTURER'S DESIGNATION OF DRILL			
W. G. JAGUES				B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number)				13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN		UNDISTURBED	
M-30/2				N/A		N/A	
5. NAME OF DRILLER				14. TOTAL NUMBER CORE BOXES			
STEVE FREY				11			
6. DIRECTION OF HOLE				15. ELEVATION GROUND WATER			
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				N/A			
7. THICKNESS OF OVERBURDEN				16. DATE HOLE		STARTED	
0 496.9				11/9/89		11/9/89	
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE			
39.5				496.7			
9. TOTAL DEPTH OF HOLE				18. TOTAL CORE RECOVERY FOR BORING			
457.4				39.5			
				19. SIGNATURE OF INSPECTOR			
				JMD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, meter loss, depth of weathering, etc., if significant)	
496.7	1		SANDSTONE			PULL #1	
	2		M.C.G, m.h., m.gr bkm		Box 1	START 8:30	
	3		INT SM. PIECES (MAX 0.3) CORESPINS @ 2.4'			END 8:45	
	4		2.9 W/O.4 L.C			TIME 15min	
493.3	5					DRL 15min	
	6					RAN 5.0	
492.1	7					REC 4.4	
	8		CLS		3.7	LOSS 0	
	9		S.M.H., m.gr. 0.0 3.4			UNACC 0	
	10		(PROB AREA OF 0.2 L.C.)			DEP+T/DEP 5.0	
	11		SANDSTONE		Box 2	PULL #2	
	12		Fig. m.h., m.gr BKN.			START 8:55	
	13		5.0-6.5 W/CLS LAM			END 9:12	
	14		grading into			TIME 17min	
489.2	15				7.7	DRL 17min UNACC 0	
	16					RAN 4.1	
	17		CLS/SLs			REC 4.5	
	18		INTERBd, sh., s		Box 3	LOSS 0	
	19		m.h. - m.-dk.gr w/			DEP 9.1	
	20		CLOSely SPACED SLK			T/DEP 9.9	
	21		PTGS			PULL #3	
485.3	22				11.4	START 9:27	
	23					END 9:45	
	24		CLS			TIME 18min	
	25		S.M.H., m.dk.gr. w/occ		Box 4	DRL 18min	
	26		SA LAM VE BKN. 11.4-			RAN 5.2	
	27		12.9 OCC SA. INCREASING			REC 4.6	
	28		SA W/CLYPTA 0.1 L.C			LOSS 0	
	29		BTWN 19.1 & 17.6			UNACC 0	
479.1	30				14.8	DEP 19.3 T/DEP 19.1	
	31					PULL #4	
	32					START 9:56	
	33					END 10:08	
	34				Box 5	TIME 12min	
	35					DRL 12min	
	36					RAN 4.8	
	37					REC 5.3	
	38					LOSS 0.1	
	39				18.6	UNACC 0.1	
477.3	40				Box 6	DEP 19.1	
	41					T/DEP 19.5	
	42					PULL #5	
	43					(CONT)	

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MAR 71 (TRANSLUCENT)

PROJECT GALLI POLIS LOCK & DAM HOLE NO. M-30/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
6ALLI POLIS LOCK & DAM			496.7 ORH-CD		11-30/2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	PULL #5
	21					START 10:15
	22		occ sly s. - m.h., m			END 10:35
	23		dk. gr sly bkn 9.9		22.1	TIME 20min LOSS 0.2
	24		- 21.0 w/o. 2. L.C. (mech)			DRL 20min UNAC 0.2
	25		: 0.2. SGR. CL. 26.9-27.1		Box 7	RAN 4.9
	26					REC 4.5
	27					DEP 29.0
469.6	27					T/DEP 29.2
	28		ICL			PULL #6
	29		MOTTLED TO R. BR		25.5	START 10:49
	30		S. - m.h., SLK			END 10:58
	31		S 27.1 to 29.4.			TIME 9min
	32				Box 8	DRL 9min
	33					RAN 5.4
	34					REC 5.2
	35					LOSS 0
	36				29.0	UNAC 0
	37					DEP/DEP 29.4
	38					PULL #7
	39				Box 9	START 11:10
	40					END 11:25
	41					TIME 15min
	42					DRL 15min UNAC 0
	43				32.6	RAN 4.1
	44					REC 3.9
	45					LOSS 0 T/DEP 33.3
	46				Box 10	DEP 33.5
	47					PULL #8
	48					START 23:40
	49					END 23:59
	50				36.1	TIME 17min
	51					DRL 17min
	52					RAN 6.2
	53				Box 11	REC 5.1
	54					LOSS 1.1
	55					UNAC 1.1
457.2	55		BOTTOM HOLE		39.5	T/DEP 39.5
	56					DEP 39.5
	57					
	58					
	59					
	60					
	61					
	62					
	63					
	64					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-229-243

PROJECT  
6ALLI POLIS LOCK & DAM  
HOLE NO.  
11-30/2

DRILLING LOG		DIVISION ORD		INSTALLATION OEN-CD		Hole No. <i>M-311</i> SHEET OF 2 SHEETS	
1. PROJECT <i>GALLIPOLIS LOCK DAM</i>				10. SIZE AND TYPE OF BIT <i>4 1/2"</i>			
2. LOCATION (Coordinates or Station) <i>MONO M-31 STA 2730R</i>				11. DATUM FOR ELEVATION SHOWN (FEET = MSL) <i>M.S.L.</i>			
3. DRILLING AGENCY <i>W. G. JACOBS</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B. 57-MCB-LE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>M-311</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>Dowell NOERIS</i>				14. TOTAL NUMBER CORE BOXES <i>12</i>		UNDISTURBED <i>N/A</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <i>N/A</i>		16. DATE HOLE STARTED <i>1/19/87</i> COMPLETED <i>1/19/87</i>	
7. THICKNESS OF OVERBURDEN <i>496.5</i>				17. ELEVATION TOP OF HOLE <i>496.5</i>		18. TOTAL CORE RECOVERY FOR BORING <i>39.0</i>	
8. DEPTH DRILLED INTO ROCK <i>39.0</i>				19. SIGNATURE OF INSPECTOR <i>JMD</i>			
9. TOTAL DEPTH OF HOLE <i>457.5</i>							
ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.5	1		SANDSTONE A.G.R. m.g. th. bdd to FLAGGY		Box 1	PULL #1 START 13.25 END 13.33 TIME 8 min DRL 8 min RAN -	
	2						
	3						
492.6	4		CLS m.h. gr w/lo. s, to G 3.9, 0.3 LOSS 0-5.0 BKN CORE 5.5 TO 7.5 W/ OCC SLK.		Box 2	REC 4.7 LOSS 0.3 UNAC 0.3 DEP 5.1 T/DEP 5.0	
	5						
	6						
	7		BECOMING MASS FSLD 7.6 W/CLLS inter bdd f OCC SLK PA'S		Box 3	PULL #2 START 13.43 END 13.52 TIME 9 min DRL 9 min RAN -	
	8						
	9		LOSS SL below 10.5 W/OCC SLK AND MORE SH W/DPH			REC 5.0 LOSS 0 UNAC 0 T/DEP 9.6	
	10					DEP 10.2	
	11		16.0-16.3 BKN CRUMBLY		Box 4	PULL #3 START 14.05 END 15.12 TIME 1 hr 7 min DRL 11 min RAN -	
	12						
	13						
	14					REC 4.6 LOSS 0 UNAC 0	
	15					DEP + T/DEP 14.6	
480.3	16		SANDSTONE m.h. gr f. MASS GRATING		Box 5	PULL #4 START 15.21 END 15.33 TIME 12 min DRL 12 min RAN -	
	17						
	18					REC -	
	19				Box 6	LOSS - UNAC - T/DEP 18.8	
	20		CLS (CONT)		CONT	DEP 19.6	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT *GALLIPOLIS LOCK DAM* HOLE NO. *M-311*

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		4965		M-3111		
6ALLIPOLIS LOCK & DAM		INSTALLATION		SHEET 2		
		ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	PULL#5 T/DEP 20.3
	21		S, M.H. 9 R 0.3 W/SK		20.9	START 4:20 DEP 20.7
	22		0.1 LOSS 18.8-20.3		Box 7	PULL#6
	23		INTERMITTENT TEL BELOW			TIME 20min START 4:45
	24		21.5 SK 22.9 MASS			DEL 20min END 4:55
	25		SL, SL 22.9-25.8			RAN - TIME 10min
	26		GRADUAL CONTACT			REC 1.4 LOSS 0.1
479.1	26				20.7	UNAC 0.1 RAN 4.2
	27		ICL			REC 5.1
	28		M.H. 9 R - R, SK, SOLID			UNAC - LOSS -
	29		W/SK PARTINGS 0.9 LC			DEP 5.0
	30		30.2-39.0		Box 8	PULL#7 T/DEP 26.4
	31					START 5:10
	32					END 5:35
	33					TIME 25min
	34				28.5	DEL 25min
	35					RAN 5.1
	36					REC 4.8
	37					LOSS 0.3
	38				Box 9	UNAC 0.3
	39					DEP 30.0
	40					T/DEP 30.2
	41					PULL#8
	42				32.1	START 5:50
	43					END 6:30
	44					TIME 40min
	45				Box 10	DEL 40min
	46					RAN 9.7
	47					REC 8.4
	48					LOSS 1.3
	49					UNAC 1.3
457.5	49		BOTTOM HOLE		36.0	
	50				Box 11	
	51					
	52				37.5	
	53				Box 12	
	54					
	55				39.0	T/DEP 39.0
	56					DEP 39.7
	57					
	58					
	59					
	60					
	61					
	62					
	63					
	64					

ENG FORM  
JAN 67

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

6ALLIPOLIS LOCK & DAM

HOLE NO.

M-3111

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-LD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		6 ALLIPOHIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4 x 5 1/4"	
3. DRILLING AGENCY		MONO M-31 STA 1+85.8		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-31/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		DOWELL NORRIS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		496.6		15. ELEVATION GROUND WATER		NA	
8. DEPTH DRILLED INTO ROCK		38.6		16. DATE HOLE		STARTED 11/19/89 COMPLETED 11/19/89	
9. TOTAL DEPTH OF HOLE		458.0		17. ELEVATION TOP OF HOLE		496.6	
				18. TOTAL CORE RECOVERY FOR BORING		38.6	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.6	1		SANDSTONE		Box 1	PULL #1	
	2		M.-C.G., M.H., M.G.R.			START 7:35	
	3		BKN. 0.0-2.5			END 7:45	
	4					TIME 10 min	
	5					DRL 10 min	
	6					RAN 4.9	
	7					REC 5.1	
	8					LOSS 0	
	9					UNAKL 0	
491.3	10				Box 2	DEP 4.9	
	11					TIDE 5.1	
	12		CLS			PULL #2	
	13		S.-M.H., M.-DK.G.R. W/			START 7:50	
	14		MED SPACED ANGULAR PTG			END 8:20	
	15		SLT.SLAM. 8.1-8.3			TIME 30 min	
488.1	16				Box 3	DRL 30 min	
	17		SANDSTONE			RAN 9.4	
	18		SLY Fg, M.H., M.G.R.			REC 9.3	
	19		BKN ALONG NA-UCR FRAC			LOSS 0	
	20		B.5-10.4. GRADING			UNAKL 0	
484.6	21				Box 4	DEP 14.3	
	22		CLS			TIDE 14.4	
	23		S.-M.H., M.-DK.G.R.			PULL #3	
	24		VE.S., BKN 12.6-15.2			START 9:15	
	25		O.B LC BTWN 14.9-15.2			END 9:55	
	26		BECOMING SLY W/SLK			TIME 40 min	
	27		PTGS @ 15.2			DRL 40 min	
481.2	28				Box 5	RAN 10.5	
	29		SANDSTONE			REC 7.9	
	30		SLY, Fg, M.H., M.-DK.G.R. MED. SPACED			LOSS 0.8	
	31		PTGS			UNAKL 0.8 (CONT)	
477.0	32				Box 6	(CONT)	
	33		CLS				

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT ALLIPOHIS LOCK + DAM HOLE NO. M-31/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK + DAM		ORH-CD		2		
OF 2 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	PULL #3
	21				21.2	
	22		SLY., S-MH, M-DEGR		Box 7	
	23		Occ. SLY. : SA @ 25.0			T/DEP 23.3
	24					DEP 24.8
471.2	25				25.4	PULL #4
	26		ICL		Box 8	START 10:20
	27		GREENISH GR - R-BL			END 10:50
	28		S-M-H SLK			TIME 30 min
	29		0.1 S.G.R CL @ 25.4		29.1	DEL 30 min
	30		VERY BKN 26.8-33.4			RAN 8.4
	31		W/ 21. L.C.			REL 8.0
	32					LOSS 2.1
	33					UNAC 2.1
	34					DEP 33.9 T/DEP 33.2
	35				33.7	PULL #5
	36				Box 10	START 11:45
	37					END 15:10
	38					TIME 25 min
458.0	39		POTENTIAL HOLE			DEL 25 min UNAC 0
	40					RAN 0
	41					REL 3.4
	42					LOSS 0
	43					DPL 3RD
	44				38.6	

ENG FORM  
JUN 67 1836-A

CPD 1949 OF-229-242

PROJECT  
GALLIPOLIS LOCK + DAM

HOLE NO.  
M-31/2



DRILLING LOG		DIVISION <b>OLD</b>	INSTALLATION <b>ORH-CD</b>	Hole No. <b>M-32/1</b>		
			SHEET <b>1</b>	OF 2 SHEETS		
1. PROJECT <b>6ALLIPOLIS LOCK &amp; DAM</b>			10. SIZE AND TYPE OF BIT <b>4 VSH</b>			
2. LOCATION (Coordinates or Station) <b>Along M-32 STA 475.3</b>			11. DATUM FOR ELEVATION SHOWN (FEET or METER) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. C. JACOBS</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>M-32/1</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>	UNDISTURBED <b>N/A</b>		
5. NAME OF DRILLER <b>WAYNE TICE</b>			14. TOTAL NUMBER CORE BOXES <b>11</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0 496.7</b>			16. DATE HOLE STARTED <b>11/20/89</b> COMPLETED <b>11/20/89</b>			
8. DEPTH DRILLED INTO ROCK <b>39.5</b>			17. ELEVATION TOP OF HOLE <b>496.7</b>			
9. TOTAL DEPTH OF HOLE <b>457.2</b>			18. TOTAL CORE RECOVERY FOR BORING <b>39.5</b>			
			19. SIGNATURE OF INSPECTOR <b>(Signature)</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SANDSTONE m.h. gr, m.g. Thinbed		Box 1	PULL #1 START 8:25 END 8:33 TIME 8min DRL 8min RAN - REL 5.0 LOSS 0 UNACL 0
492.1	2		TO MASS		3.8	
	3					
	4					
	5		CLS m.h., gr w/occ silt		Box 2	DEP 5.0 T/DEP 5.0 PULL #2 START 8:45 END 8:58 TIME 13min DRL 13min RAN - REL 9.6 LOSS 0.1 UNACL 0.1
	6		0.1 RED ICL @ 4.6		7.5	
	7		0.1 LOSS 5.0-9.7, 0.2 HA			
	8		ERR CLEAR FRAC @ 7.5			
487.2	9				Box 3	DEP 17.7 PULL #3 START 9:08 END 9:26 TIME 18min DRL 18min RAN - REL 6.0 LOSS 0 UNACL 0
	10		SLT m.h. gr hnto vnt		11.0	
	11		CLEAR TIGHT FRAC 9.7 to 11.3			
489.6	12					
	13		CLS m.h. gr w/0.1 SOFT 20		Box 4	REL 6.0 LOSS 0 UNACL 0
	14		11.5, 0.16 KN 20 13.2, 0.3 BKN @ 19.2		19.7	DEP 19.7
482.1	15		sh, cls slt/slt			PULL #4 T/DEP 15.0 START 9:41 END 9:50 TIME 9min DRL 9min RAN - REL 9.9 LOSS 0.6 UNACL 0.6 T/DEP 19.5
	16		m.h., gr MASS w/ls 20.		Box 5	
	17		1.2 F3 SS @ 16.3, 0.6		18.5	
	18		LOSS 19.7-19.7 0.2		Box 6	
	19		BKs 5.20 22.5 TO 25.2			
	20		(CONT)		(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT **6ALLIPOLIS LOCK & DAM** HOLE NO. **M-32/1**

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 49.7		Hole No. 11-32/1		
PROJECT Gallipolis Lock & Dam				INSTALLATION ORH-CD		SHEET 2 OF 7 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g		
	20		sh, cl, sl, gls		Box 6	PULL #5		
	21					START 10:06		
	22					END 10:15		
	23					TIME 9min		
	24					DEL 9min		
	25				Box 7	RAW -		
	26		JCL mh, gr, slt, solid  0.2 SOFT to 2.0 @  29.8 TOP RUN, 0.5 LOSS  29.8-39.8, 0.2 SOFT  20W BLN 40.1 0.8 LOSS  39.8-39.5			REC 5.0		
	27					LOSS 0		
	28					UNACL 0 TIDE 29.3		
47.9	29					DEP 29.7		
	30					PULL #6		
	31					Box 8	START 10:25	
	32						END 10:45	
	33						TIME 20min	
	34						DEL 20min	
	35						RAW -	
	36					REC 5.1		
	37					LOSS 0		
	38					UNACL 0		
	39				Box 9	START 11:00		
	40					END 11:45		
	41					TIME 45min		
	42					DEL 45min		
	43					RAW -		
	44				Box 10	REC 4.5		
	45					LOSS 0.5		
	46					UNACL 0.5		
	47					DEP 34.7		
	48					TIDE 34.8		
	49					PULL #7		
	50				Box 11	START 13:00		
	51					END 13:39		
	52					TIME 39		
	53					DEL 39		
	54					RAW -		
	55					REC 4.2		
	56					LOSS 0.5		
	57					UNACL 0.5		
45.2	58					TIDE 39.5		
	59					DEP 39.7		
	60							
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ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF-628-503

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
11-32/1

DRILLING LOG		DIVISION	INSTALLATION		HOLE NO.	SHEET
		ORH	ORH-CD		M-32-2	OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM			10. SIZE AND TYPE OF BIT 4" 15/16"			
2. LOCATION (Coordinate or Station) MONO M-32 STA 1+40B			11. DATUM FOR ELEVATION SHOWN (TBM or BM) M.S.L.			
3. DRILLING AGENCY W.G. JACOBS			12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBIKE			
4. HOLE NO. (As shown on drawing title and file number) M-32/2			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		UNDISTURBED	
			N/A		N/A	
5. NAME OF DRILLER WAYNE TICE			14. TOTAL NUMBER CORE BOXES 11			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 496.7			16. DATE HOLE STARTED 1/25/89 COMPLETED 1/25/89			
8. DEPTH DRILLED INTO ROCK 38.0			17. ELEVATION TOP OF HOLE 496.7			
9. TOTAL DEPTH OF HOLE 458.7			18. TOTAL CORE RECOVERY FOR BORING 38.0 %			
			19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SANDSTONE M.-C.G., M.H., M.G.R.		Box 1	PULL #1 START 12:25 END 12:40 TIME 15min DRL 15min RAN - REC 4.9 LOSS 0 UNACCD
492.5	4		CLS S.-M.H., M.-DK.GR O.Z S.G.R. CL @ 4.2-4.4 M.-SPACED SLK PTGS VEBKN. W/SLK LEN SLK. PTGS 8.0-10.2		Box 2	DEP 4.5 DEP 4.9 PULL #2 START 12:50 END 1:00 TIME 10min DRL 10min RAN - REC 4.5 LOSS 0 UNACCD T/DEP 9.4 DEP 9.9
486.5	10		SLK. S.-M.H., M.-DK.GR		Box 3	PULL #3 START 1:05 END 1:15 TIME 10min DRL 10min RAN - REC 4.9 LOSS 0 UNACCD T/DEP 14.3 DEP 14.7
484.8	11		CLS M.-DK.GR., S.-M.H., SHY OCC SHY SHY-14.3-15.6 W/HOR, GRCH. COA., HOR. PTG @ 15.0		Box 4	PULL #4 START 1:18 END 1:30 TIME 12min DRL 12min RAN - REC 4.9 LOSS 0 UNACCD T/DEP 19.0 DEP 19.9
481.1	16		SANDSTONE SLY, fig, M.H., M.G.R. UCRT, IRR, O.JT 15.6-16.6		Box 5	
480.1	17		SLK S.-M.H., M.-DK.GR., PTS SHY SA ZO. 19.6-20.6		Box 6	
	20		(CONT)		(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-32/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2	
GALLIPOLIS Lock & Dam				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
476.1	20		SLS		Box 6	PULL #5	
	21		CLS		20.9	START 1:35	
	22		S.M.H., M-DK.GR: OCC			END 1:50	
	23		SLY: SLY 20 W/SLK.PH		Box 7	TIME 15min	
	24		@ 20.7: 0.1 S.GR CL@			DRL 15min	
	25		23.3-23.4			RAN -	
	26		TRAN 23.4-27.2 W/m-			REC 5.2	
	27		SPACED SLK DRGS: S. 20			LOSS 0	
	28				29.4	UNACC 0	
	29					T/DEP 29.3	
469.5	27				Box 8	PULL #6	
	28		ICL			START 1:55	
	29		R. BR, S.-M.H., BKN. W/			END 2:10	
	30		SLK-PLNS Throughout			TIME 15min	
	31				28.2	DRL 15min	
	32					RAN -	
	33					REC 5.3	
	34					LOSS 0	
	35				Box 9	UNACC 0	
	36					T/DEP 29.3	
	37					DEP 29.7	
	38				31.4	PULL #7	
	39					START 2:15	
	40					END 2:40	
	41					TIME 15min	
	42				Box 10	DRL 15min	
	43					RAN -	
	44					REC 4.9	
	45					LOSS 0	
	46				34.6	UNACC 0	
	47					T/DEP 34.6	
	48					DEP 34.9	
458.7	38		Bottom Hole		Box 11	PULL #8	
	39					START 2:45	
	40					END 3:10	
	41					TIME 25min	
	42					DRL 25min	
	43				38.0	RAN -	
	44					REC 4.7	
	45					LOSS 0	
	46					UNACC 0	
	47					T/DEP 39.3	
	48					DEP 39.8	

ENG FORM  
ADM 47

1836-A

(BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS Lock & Dam

HOLE NO.  
M-32/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>M-33/1</u>	
1. PROJECT		ORD		ORH-CD		SHEET 3 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		STA 1430A		10. SIZE AND TYPE OF BIT		4 1/2"	
3. DRILLING AGENCY		W. G. JACQUES		11. DATUM FOR ELEVATION SHOWN (TBM or BM)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		M-33/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 496.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.5		16. DATE MOLE		STARTED 1/25/89	
9. TOTAL DEPTH OF HOLE		458.4		17. ELEVATION TOP OF HOLE		494.9	
				18. TOTAL CORE RECOVERY FOR BORING		38.5	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SANDSTONE m. G., m. h., m. gr			PULL #1	
	2		Thin bdd		Box 1	START 4:15 END 4:30 Time 15min DRL 15min RAN - REC 5.0 LOSS 0 UNACC 0	
493.5	3						
	4		CLS m. dk. gr, s. m. h.		Box 2	START 4:38 END 4:50 Time 12min DRL 12min RAN 5.1 REC 4.2 LOSS 0.9 UNACC 0.9	
	5		VE. bkn w/slk. 3.4-7.2			DEP 9.1 T/DEP 5.0	
	6		w/6.9 L.C			PULL #2	
489.7	7					START 5:03 END 5:40 Time 37min DRL 37min RAN - REC 9.8 LOSS 0.7 UNACC 0.7	
	8		SANDSTONE shy, f.g., m. h., m. g.		Box 3		
	9		50° ANG PTG @ 7.4-7.7			DEP 9.8 T/DEP 10.1	
487.3	10		shy, f.g., m. h., m. g.			PULL #3	
	11		50° ANG PTG @ 7.4-7.7				
485.9	12		shy, f.g., m. h., m. g.		Box 4		
	13		50° ANG PTG @ 7.4-7.7				
	14		shy, f.g., m. h., m. g.				
481.1	15		50° ANG PTG @ 7.4-7.7		Box 5		
	16		shy, f.g., m. h., m. g.				
479.5	17		50° ANG PTG @ 7.4-7.7				
	18		shy, f.g., m. h., m. g.				
477.3	19		50° ANG PTG @ 7.4-7.7				
	20		shy, f.g., m. h., m. g.				
			CLS (CONT)			(CONT)	

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCKE DAM

HOLE NO.  
M-33/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.9		Hole No. 17-33/1	
PROJECT GALLIPOLIS LOCK DAM				INSTALLATION OEH-LD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		CLS		Box 6	PULL #3	
	21					DED + T/DEP 29.6	
	22		OCC. SLY, S.-M.H., M-			PULL #4	
	23		dk. gr. sly, w/TA TO SE.			START 5:55	
	24		OF GR. CL. VE. BKN. 19.6-		23.6	END 6:21	
	25		20.6 w/10.7 L.C.: VE BKN			TIME 26 min	
	26		22.0 - 30.3 w/3.1 L.C.		Box 7	DRL 26 min	
	27					RAW 9.7	
	28					REC 6.6	
	29					LOSS 3.1	
	30					UNACC 3.1	
466.6	30				30.3	T/DEP 30.3	
	31		ICL		Box 8	DED 30.6	
	32		R. BR, S.-M.H., BKN,			PULL #5	
	33		SK 2.5 L.C. b/w 30.3			START 7:18	
	34		E 38.5		34.0	END 7:40	
	35					TIME 22 min	
	36				Box 9	DRL 22 min	
	37					RAW	
	38					REC 8.2	
	39					LOSS 2.5	
458.4	39				38.5	UNACC 2.5	
	40		BOTTOM HOLE			T/DEP + DEP 38.5	
	41						
	42						
	43						
	44						

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK DAM

HOLE NO. 17-33/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>M-33/2</i>	
		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT <i>GALLIPOLIS LOCK &amp; DAM</i>				10. SIZE AND TYPE OF BIT <i>4x5 1/2"</i>			
2. LOCATION (Coordinates or Station) <i>ADNO M-33 STA 1490 B</i>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <i>M.S.L.</i>			
3. DRILLING AGENCY <i>W.G. JACOBS</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-57 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>M-33/2</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>WAYNE TICE</i>				14. TOTAL NUMBER CORE BOXES <i>10</i>		UNDISTURBED <i>N/A</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <i>N/A</i>		16. DATE HOLE STARTED <i>1-25-69</i> COMPLETED <i>1-25-69</i>	
7. THICKNESS OF OVERBURDEN <i>Ø 496.7</i>				17. ELEVATION TOP OF HOLE <i>496.7</i>			
8. DEPTH DRILLED INTO ROCK <i>37.4</i>				18. TOTAL CORE RECOVERY FOR BORING <i>37.4</i> %			
9. TOTAL DEPTH OF HOLE <i>459.3</i>				19. SIGNATURE OF INSPECTOR <i>JMD</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.7			SANDSTONE			PULL #1	
	1		M.H. 92 M.G. Thin bed		Box	START 12:25	
495.2			To FLASSV		1	END 12:40	
	2		CLS			TIME 15 MIN	
	3		S-M.H. GR. GRADES			DEL 15 MIN	
	4		silty w/interbed w/			RAN -	
	5		CL/SL			REL 4.9	
	6		0.6 1/2 SS @ 5.0		3.8	LOSS Ø	
	7		0.2 LOSS 0-5.0			UNACCL Ø TIDEP 4.5	
	8		shaley so.			DEP 4.9	
	9		VERY CL w/occ SLT		Box	PULL #2	
	10		9.1 to 19.5		2	START 12:50	
	11		SL, SH AND MASS			END 1:00	
	12		14.5-23.4 1.0 CLS			TIME 10 MIN	
	13		w/HA DRAC @ 20.7			DEL 10 MIN	
	14		0.1 LOSS 15.0-18.9		7.3	RAN -	
	15		SLK @ 11.6			REL 4.5	
	16				Box	LOSS Ø	
	17				3	UNACCL Ø	
	18					TIDEP 8.9	
	19					DEP 8.9	
	20					PULL #3	
					10.8	START 1:05	
						END 1:15	
						TIME 10 MIN	
					Box	DEL 10 MIN	
					4	RAN -	
						REL 4.9	
						LOSS Ø	
					18.5	UNACCL Ø TIDEP 4.3	
						DEP 4.3	
						PULL #4	
						START 1:18	
					Box	END 1:30	
					5	TIME 12 MIN	
						DEL 12 MIN	
						RAN -	
					18.2	REL 4.9	
					Box	LOSS Ø	
					6	UNACCL Ø	
						DEP TIDEP 19.8	
(CONT)				(CONT)			

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
M-33/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.7		Hole No. M-23/2	
PROJECT GALLIPOLIS LOCK DAM				INSTALLATION ORH-LD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		(CONT) CLS		Box 6	PULL#5 START 1:35 END 1:50 TIME 15 min DRL 15 min	
	21				21.7		
	22						
	23				Box 7	RAN — REC 5.2 LOSS 0 UNAC 0	
472.3	24					UNAC 0 T/DEP 28.1 DEP 28.3	
	25		ICL			PULL#6 START 1:55 END 2:10 TIME 15 min DRL 15 min	
	26		S.M.H.-R.G.R., SLK		26.2		
	27		CRUMBLY TO FAIRLY MASS				
	28		1.2 LOSS IN BKN ICL		Box 8	RAN — REC 5.3 LOSS 0 UNAC 0	
	29		29.9 - 37.9			T/DEP 29.3 DEP 29.7	
	30				29.9		
	31					PULL#7 START 2:15 END 2:40 TIME 15 min DRL 15 min	
	32				Box 9	RAN — REC 4.9 LOSS 0 UNAC 0	
	33				33.5	T/DEP 33.9	
	34						
	35				Box 10	DEP 34.9	
	36					PULL#8 START 2:45 END 3:10 TIME 25 min DRL 25 min	
459.3	37		BOTTOM HOLE		36.2	RAN — REC 4.7 LOSS 0 UNAC 0	
	38					T/DEP 38.7 DEP 38.8	
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM  
JAN 67

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 628 - 503

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

M-23/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT <i>GALLIPOLIS LOCK DAM</i>		<i>ORD</i>		<i>ORH-CD</i>		<i>OF 2 SHEETS</i>	
2. LOCATION (Coordinates or Station) <i>MONO M-34 STA 0+80.8</i>				10. SIZE AND TYPE OF BIT <i>4 1/2"</i>			
3. DRILLING AGENCY <i>W. G. JACOBS</i>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <i>M.S.L.</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>M-34/1</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53 MOBILE</i>			
5. NAME OF DRILLER <i>STEVE FRY</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i> UNDISTURBED <i>N/A</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <i>10</i>			
7. THICKNESS OF OVERBURDEN <i>0 492.7</i>				15. ELEVATION GROUND WATER <i>N/A</i>			
8. DEPTH DRILLED INTO ROCK <i>37.2</i>				16. DATE HOLE STARTED <i>1/25/87</i> COMPLETED <i>1/26/87</i>			
9. TOTAL DEPTH OF HOLE <i>455.5</i>				17. ELEVATION TOP OF HOLE <i>492.7</i>			
				18. TOTAL CORE RECOVERY FOR BORING <i>37.2</i>			
				19. SIGNATURE OF INSPECTOR <i>JMD</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
492.7	1		SANDSTONE M.h. g. m. g. Th. Bdd To FLAGGY		Box 1	PULL #1 START 20:55 END 21:07 TIME 12min DRL 12min RAW 4.8 REC 4.6	
490.8	2		CLS M.h. g. o. l. u. s. plastic. V.S. 2.3			DRL 12min RAW 4.8 REC 4.6	
490.2	3		SANDSTONE M.h. g. r. u. Fg. SL, FLAGGY		3.7	LOSS 0.2 UNALCAL	
	4					DEPT/DEP 4.8 PULL #2	
	5				Box 2	START 21:20 END 21:35 TIME 15min DRL 15min	
	6					RAW 4.9 REC 4.9	
	7				7.4	LOSS 0 UNALCAL	
489.3	8				Box 3	DEPT/DEP 9.7 PULL #3	
	9		CLS M.h. g. r. o. l. - o. b. p. c. s W/ EVID OF MECH. GRINDING O. 4 BKN @ END RUN 9.9, 9.9 PACE SL, SL AND MORE MASS @ 14.0 TO 17.8 1.3 LC 9.7-19.1 0.4 S. CL @ 19.6 V.E.S., CL @ 22.3 TO 25.3		10.8	START 21:45 END 22:43 TIME 38min DRL 38min RAW 10.4 REC 9.1 LOSS 1.3 UNALCAL 1.3	
	10						
	11				Box 4		
	12						
	13				14.5		
	14						
	15				Box 5		
	16						
	17				17.8		
	18				Box 6		
	19					DEPT/DEP 19.1 PULL #4	
	20		(CONT)		(CONT)	(CONT)	

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK DAM		492.7 ORH-CD		M-34/1		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	PULL #4
	21					START 22:35
	22				21.7	END 23:10
	23				Box 7	Time 35min
	24					DEL 35min
	25					RAN 9.7
467.4						REC 8.6
	26					LOSS 1.1
	27					UNACC 1.1
	28		ICL		25.3	
	29		2-6e. w/slk pty		Box 8	
	30		1.1 LC btwn 28.8			
	31		0.6 LC btwn 28.8 + 32.6			DEPT/IDEP 28.8
	32		1.0 LC btwn 32.6 + 37.2		29.9	PULL #5
	33					START 9:28
	34					END 9:50
	35					Time 22min
	36				Box 9	DEL 22min
	37					RAN — UNACC 0.6
	38					REC 3.2
	39					LOSS 0.6 T/IDEP 32.4
	40					DEP 32.9
	41				33.8	PULL #6
	42					START 10:02
	43					END 10:35
	44					Time 33min
					Box 10	DEL 33min
						RAN 3.6
						REC 2.7
						LOSS 1.9
455.5			BOTTOM HOLE		37.2	UNACC 1.9 T/IDEP 37.2
	38					DEP 37.9
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1980 OF-828-603

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

M-34/1

DRILLING LOG		Division		INSTALLATION		Hole No.	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		<b>OLD</b>		<b>ORH-LD</b>		<b>M-34/2</b>	
2. LOCATION (Coordinate or Station) <b>MDND M-34 STA 0140B</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>		SHEET 1 OF 2 SHEETS	
3. DRILLING AGENCY <b>W. G. JAMES</b>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>M-34/2</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 M.O.B.I.Z.E</b>			
5. NAME OF DRILLER <b>STEVE FRY</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>7</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>0 456.8</b>				16. DATE HOLE <b>1/25/80</b>		STARTED <b>1/26/80</b>	
8. DEPTH DRILLED INTO ROCK <b>38.0</b>				17. ELEVATION TOP OF HOLE <b>496.8</b>			
9. TOTAL DEPTH OF HOLE <b>458.8</b>				18. TOTAL CORE RECOVERY FOR BORING <b>40</b>		19. SIGNATURE OF INSPECTOR <b>J.M.U.</b>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.8	1		SANDSTONE M.M., G.R. M.G. TANK TO FLAGGY		Box 1	PULL #1 START 12:25 END 12:40 TIME 15min DEL 15min RAN 4.9 REL 4.9 LOSS 0	
493.2	3				3.8	UNACL 0	
	4		CLS			DEPT+T/DEP 4.9	
	5		S-M.H. G.R. W/OCC SLK. 0.3 VERT IRR		Box 2	PULL #2 START 12:50 END 13:00 TIME 10min DEL 10min RAN 4.9 REL 4.9 LOSS 0	
	6		FRAC 489.4 GRADING TO V-SLT-SH @ 14.0				
	7		MASS W/TAIN SLS STAYS 1SLK @ 16.0		7.4		
	8		16.8 1.4 LOSS 10.5 - 19.5		Box 3	UNACL 0	
	9						
	10						
	11				11.1	DEPT+T/DEP 10.5 PULL #3 START 13:05 END 13:15 TIME 10min DEL 10min RAN 14.3 UNACL 0 REL 4.9 LOSS 0	
	12				Box 4		
	13						
	14				14.7	DEP 14.3 PULL #4 START 13:18 END 13:30 TIME 12min DEL 12min RAN 10.2 REL 4.9 LOSS 0 UNACL 0	
	15						
	16				Box 5		
	17						
	18						
	19				19.5	DEP 19.2 PULL #5 (CONT)	
477.3	20		CLS (CONT)		Box 6		

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PROJECT **GALLIPOLIS LOCK & DAM** HOLE NO. **M-34/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 493.0		Hole No. M-34/L		
PROJECT GALLIPOLI'S LOCK & DAM		INSTALLATION ORH-CP		SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #5
	21		M.-dk. gr		Box 6	START 13:35 END 13:50 TIME 15min DRL 15min RAN 29.9 REL 5.2
	22		COLE SPIN 22.1-23.2			
	23		W/O. 7 LC			
473.2					23.6	LOSS Ø UNAC Ø
	24		ICL			DEP 29.4
	25				Box 7	PULL #6
	26		R. BR, S., VL, BKN			START 13:55 END 14:10 TIME 15min DRL 15min RAN 29.7 REL 5.3
	27				27.3	
	28				Box 8	LOSS Ø UNAC Ø
	29					
	30					DEP 29.7 PULL #7
	31				31.0	START 14:15 END 14:40 TIME 25min DRL 25min RAN 34.6 REL 4.9 LOSS Ø UNAC
	32				Box 9	
	33					
	34					
	35				Box 10	DEP 34.6 PULL #8
	36					START 14:45 END 15:10 TIME 25min DRL 25min RAN 38.0 REL 3.4 LOSS Ø UNAC
	37					
458.0					Box 11	LOSS Ø UNAC
	38		BOTTOM HOLE		38.0	DEP 38.0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
JUN 67

1836-A

(BR 1110-1-1001)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLI'S LOCK & DAM

HOLE NO.

M-34/L

Hole No. 4-35/1

DRILLING LOG		DIVISION	INSTALLATION	SHEET
1. PROJECT <u>GALLIPOLIS LOCK DAM</u>		<u>ORD</u>	<u>ORH-CD</u>	OF 2 SHEETS
2. LOCATION (Coordinates or Station) <u>MONO M-35</u>		10. SIZE AND TYPE OF BIT <u>4 1/2"</u>		
3. DRILLING AGENCY <u>W. &amp; J. AGNES</u>		11. DATUM FOR ELEVATION SHOWN (FEET = MSL) <u>M.S.L.</u>		
4. HOLE NO. (As shown on drawing title and file number) <u>M-35/1</u>		12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>		
5. NAME OF DRILLER <u>WAYNE TICE</u>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <u>9</u>		
7. THICKNESS OF OVERBURDEN <u>0 496.7</u>		15. ELEVATION GROUND WATER <u>N/A</u>		
8. DEPTH DRILLED INTO ROCK <u>34.4</u>		16. DATE HOLE <u>2/7/89</u> STARTED <u>2/7/89</u> COMPLETED <u>2/7/89</u>		
9. TOTAL DEPTH OF HOLE <u>462.3</u>		17. ELEVATION TOP OF HOLE <u>476.7</u>		
		18. TOTAL CORE RECOVERY FOR BORING <u>34.4</u> %		
		19. SIGNATURE OF INSPECTOR <u>(M)</u>		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SANDSTONE M.C.G., m.h., gr - STA 60 TO 1.9, 4.0 LC (mech) 0.0-1.8		Box 1	PULL #1 START 7:30 END 8:00 TIME 30 MIN DRL 30 MIN RAN - REC 4.1 LOSS 1.0 T/DEP 4.1 UNAC 1.0
494.7	2		SLS/CLS INTERBDD, S.-M.H., M.H.K.		3.7	
	3		gr., sly VE.S. 2.0-2.7:			
	4		OCC S.L.K. PTg. 0.3 L.C.		Box 2	PULL #2 START 8:15 END 9:03 TIME 48 MIN DRL 48 MIN RAN - REC 9.6 LOSS 0.3 UNAC 0.3
	5		(MECH) 6 TWN 5.1-19.0		8.2	
	6				Box 3	
	7				11.9	
	8					
	9				Box 4	
	10				15.6	
	11					
	12				Box 5	PULL #3 START 9:22 END 10:02 TIME 40 MIN DRL 40 MIN RAN - REC 10.0 LOSS 0 (CONT)
	13				17.4	
	14				Box 6	
	15		SANDSTONE VE SLY, F.G., M.H., M.G.R.			
	16		0.1 CLS LEN 15.0-15.1			
	17		grading 17.0-17.8 into			
	18		SLS/CLS INTERBDD, S.-M.H.			
	19		(CONT)			
	20					

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PROJECT GALLIPOLIS LOCK DAM HOLE NO. M-35/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				496.7		M-35/1	
GALLIPOLIS LOCK & DAM				INSTALLATION		SHEET 2	
				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SLT CLS		Box 6	PULL #3	
	21		M. dk. gr. SLT. PTg @ 185			UNACCL 0	
	22		S. CLS. SC. 20.6-21.6				
473.2	23						
	24		ICL		Box 7	DEPT + T/DEP 25.0	
	25		R. - br. S. - M.H., SLK			PULL #4	
	26		0.5 L.C. BTWN 25.0 & 34.4			START 10:25	
	27				27.0	END 11:18	
	28					TIME 53min	
	29				Box 8	DEL 53min	
	30					RHN —	
	31					REC 8.9	
	32					LOSS 0.5	
	33					UNACCL 0.5	
	34				30.6		
462.3	34		BOTTOM HOLE		Box 9		
	35				34.4	T/DEP + DEP 34.4	
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM  
JUN 67

1836-A

(NR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-35/1

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4 1/2 IN	
3. DRILLING AGENCY		M-35 STA 5+76.8		11. DAY OF YEAR FOR ELEVATION SHOWN (Y2M or JUL)		M.S.L	
4. HOLE NO. (As shown on drawing title and file number)		M-35/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOD/LE	
5. NAME OF DRILLER		WAYNE TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 495.8		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		33.9		16. DATE HOLE		STARTED 2/9/89 COMPLETED 2/9/89	
9. TOTAL DEPTH OF HOLE		462.4		17. ELEVATION TOP OF HOLE		495.8	
				18. TOTAL CORE RECOVERY FOR BORING		33.4 %	
				19. SIGNATURE OF INSPECTOR		L.M.V.	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
495.8			SLS			PULL #1	
	1		GR, S, M.H, SA, BKN			START 5:30	
	2		AMS W/O.2 SPACING, CLS		1	END 5:42	
	3		GR, S, SA, 2.0-3.1, SR 3.135			TIME 12 min	
	4		S.S-S.B, SS GR, M.H, F-			REL 12 min	
	5		UE.F 3.5-4.9, 6.5-6.7		3.7	RAN 5.1	
	6					REC 4.8	
	7					LOSS 0.4	
	8				2	UNAC 0.9	
	9		CLS			D-2+T/D-2 4.8	
497.0	10		GR, S, SA, SCUPAL BENT + FATTY 7.0-9.1, 9.3-9.6		3	PULL #2	
495.3	11		SLS			START 5:55	
	12		GR, S, M.H, SA, BKN			END 6:10	
	13		AMS, .2 11.2-12.6, 20.0		7.2	TIME 15 min	
	14		21.5 W/O.3 SPACING 14.2-			REL 15 min	
	15		20.0 BKN 13.4-13.6, 18.3-			RAN 9.9	
	16		18.8, OCC SA 13.6-14.8		3	REC 3.2	
	17		SL L-LOW 17.0			LOSS 0.9	
	18					UNAC 0.9	
	19					T/D-2 2.0	
	20					DEP 8.9	
						PULL #3	
					11.2	START 6:26	
						END 6:42	
						TIME 16 min	
					4	REL 16 min	
						RAN 4.9	
						REC 3.6	
						LOSS 0.8	
						UNAC 0.8	
						T/D-2 13.9	
						DEP 13.8	
					14.5	PULL #4	
						START 6:54	
						END 7:15	
						TIME 21 min	
					5	REL 21 min	
						RAN 5.9	
						REC 4.1	
						LOSS 1.3	
						UNAC 1.3	
						DEP 18.6	
					18.2	T/D-2 18.6	
					6	PULL #5	
					(CONT)	START, 7:25	

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-35/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT			PULL#5 END 7:50 TIME 25min DEL 25min
474.3	21					
	22		ICL		6	RAN 5.0 REC 5.0 LOSS 0.2 UNAC 0.2 DOP 23.8 TIDEP 24.0
	23		R. BR, S-M.H, OCC SLT		23.1	
	24		OCC MOTTLED, SA			PULL#6 TID 29.8
	25		dk gr 22.2-22.7, 23.1-24.0		7	START 8:43 END 9:00 TIME 17min DEL 17min
	26		SLT ONLY B/W 23.1			
	27		23.2, 23.6-24.0, 25.4		24.7	RAN 4.9 REC 4.9 LOSS 0 UNAC 0 DOP 29.7
	28		28.6-30.5-30.8		8	
	29					PULL#7 START 9:55 END 9:55 TIME 20min DEL 20min
	30				28.9	
	31					
	32				9	RAN 5.0 REC 4.7 LOSS 0.3 UNAC 0.3 DOP+TIDOP 33.4
465.9	33		BOTTOM HOLE		33.4	
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
JAN 67

1836-A

(NR 1110-1-1801)

OPD 1980 OF - 628-603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

M-35/2



DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 415H			
2. LOCATION (Coordinate or Station) MONA M-36 STA 0126A				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W. G. JACQUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M-36/1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED N/A N/A			
5. NAME OF DRILLER DAVE HAPPEL / STEVE FRYE				14. TOTAL NUMBER CORE BOXES 9			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 996.3				16. DATE HOLE STARTED 2/9/89 COMPLETED 2/9/89			
8. DEPTH DRILLED INTO ROCK 35.9				17. ELEVATION TOP OF HOLE 996.3			
9. TOTAL DEPTH OF HOLE 460.9				18. TOTAL CORE RECOVERY FOR BORING 33.3			
				19. SIGNATURE OF INSPECTOR L.M.D.			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
996.3			SANDSTONE LTGR, M.H., M-CG, OCC			PULL #1	
995.1	1		CLS FRAGS FG SURFACE STAIN 0.0-0.5			START 1:00	
	2		SLS GR. S, M.H., BKN PMS ~.3		1	END 1:20	
	3		SPACE SA, CL SPACING 103 @ 2.8			TIME 20 min	
992.8			45° JOINT 1.9-2.1 BKN 3.9-3.6			DRL 20 min	
	4		SA (GR M.H. FG. 3.9-3.5		3.6	RAN 5.0	
	5		SLS/CLS SLS GR, S-M.H., SA, 3.5-			REC 5.0	
	6		6.6, 7.5-11.1, 11.5-12.3, CLS		2	LOSS 0	
	7		GR, S, SA 6.6-7.5, 11.1-11.5			UNACQ	
	8		12.3-13.3, BKN PMS 0.2 SPACE			DCTT/DCTP 5.0	
	9		THROUGHOUT, BKN 6.0-6.6		2	PULL #2	
	10		10.0-10.2			START 1:40	
	11					END 1:55	
	12				2.1	TIME 15 min	
	13					DRL 15 min	
483.0						RAN 5.0	
	14				3	REC 3.2	
	15					LOSS 1.8	
	16					UNACQ 1.8	
	17					DCTP 10.0	
	18					PULL #3	
	19					START 2:10	
	20					END 2:30	
	21				12.3	TIME 20 min	
	22					DRL 20 min	
	23					RAN 4.6	
	24				4	REC 4.6	
	25					LOSS 0 UNACQ	
	26					DCTP 14.8	
	27					PULL #4	
	28				13.8	START 2:37	
	29					END 2:55	
	30					TIME 18 min	
	31				5	DRL 18 min	
	32					RAN 4.2	
	33					REC 4.2	
	34					LOSS 0	
	35				12.4	UNACQ	
	36				(CONT)	DCTP 18.8	
	37					DAP 19.6	
	38					PULL #5	

ENG FORM 1836  
MAR 71  
PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK + DAM  
HOLE NO.  
M-36/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.3		Hole No. M-36/1	
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD			SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
473.5	20		SLS			PULL #5 START 3:00 END 3:20 TIME 20 min DRL 20 min RAW 9.0 REC 4.0 LOSS 0 UNACQ DIP + TIDP 22.8	
	21				1		
	22						
	23		ICL			PULL #6	
	24		R.B.P., S-M.H., OCC SLX		7	START 3:57 END 3:49 TIME 12 min DRL 12 min RAW 3.7	
	25		OCC MOTTLED, W/GR-SMFL		25.7	REC 3.7 TIDP 24.5	
	26		SLTGR, ABOVE 26.0			LOSS 0	
	27		CL ABOVE 29.3 + SHALLOW		8	UNACQ	
	28		SCULPTURE BKN 22.8-23.1			DIP 28.2	
	29		29.1-29.3, 25.1-25.5, 28.6-		29.6	PULL #7	
	30		29.1, 30.4-30.7			START 4:12 END 4:39 TIME 26 min DRL 26 min RAW 6.8	
	31				9	REC 5.1	
	32					LOSS 1.7	
463.3	33		BOTTOM HOLE		33.9	UNACQ 1.7 TIDP 33.3	
	34						
	35					DIP 35.4	
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A JUN 67

(NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

M-36/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		OBH-CP		1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4YS4			
2. LOCATION (Coordinate or Station) MOND M-76 STA D+60M				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L			
3. DRILLING AGENCY W. G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOD. 2E			
4. HOLE NO. (As shown on drawing title and file number) M-76/2				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FREY				14. TOTAL NUMBER CORE BOXES 9			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 0 495.4				16. DATE HOLE STARTED 2/10/89 COMPLETED 2/10/89			
8. DEPTH DRILLED INTO ROCK 32.3				17. ELEVATION TOP OF HOLE 495.4			
9. TOTAL DEPTH OF HOLE 463.1				18. TOTAL CORE RECOVERY FOR BORING 32.3			
				19. SIGNATURE OF INSPECTOR D.M.D.			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
495.4	1		SLT GR, S, M.H, SA, BKN PMS			PULL #1 START 15:45 END 16:00 TIME 15min DRL 15min RAN 9.6 REC 3.0 LOSS 1.6 UNAC 1.6 D-P 4.4	
	2		O.O.S. 1 W/O. 2 Spacing SLT				
	3		To 1100 - BKN W/L.C. O.O.S.		1		
	4		CLS 1/4 GR., U.E.S. SCUPPLY BKN				
	5		4.6-4.9, SG below S. 4 F.W.		5.9	PULL #2 START 16:10 END 16:30 TIME 20min DRL 20min RAN 5.5 REC 5.0 LOSS .5 UNAC 1.5	
	6		BRNDS, SS. 9.2, M.H.F. 9		2		
	7		6.2-7.2				
487.7	8		CLS				
	9		GR, S, SA, SCUPPLY BKN		9.1	UNAC 1.5	
486.0			7.7-8.0, 8.6-8.8, 9.1-9.4			D-P 10.0	
	10		SLT				
	11		GR. S. - M.H, SA, BKN PMS		3	PULL #3 START 16:52 END 17:06 TIME 14min DRL 19min RAN 9.9 REC 4.6 LOSS 0.3 UNAC 0.3 D-P 10.9	
	12		O.9 Spacing, BKN PMS				
	13		O.2 Spacing 11.2-11.9, SG		12.8		
	14		W/occ thin gradational		4		
	15		INT-PTS OF SS U.E.F. 9.				
	16		11.9-12.0, CLS GR., S, SA		16.3	PULL #4 START 17:27 END 17:45 TIME 18min DRL 18min RAN 9.9 REC 9.4 LOSS 0.5 UNAC 0.5	
	17		EXH PMS W/O. 1 Spacing W/		5		
	18		Occ CL COATING 16.6-17.6				
	19		18.2-18.4, 18.7-18.9				
	20		(CONT)		(CONT)	D-P 19.8 PULL #5	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. M-36/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		495.4		Hole No. M-36/2	
PROJECT				INSTALLATION		SHEET 2		OF 2 SHEETS	
GALLIPOLIS LOCK & DAM				ORH-CD					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)			
a	b	c	d	e	f	g			
479.3	20		SLT		5	PULL#5			
	21				20.9	START 18:11			
	22		ICL			END 18:22			
	23		R. BR, S-M. H. SLT, OCC SLT		6	TIME 11 min			
	24		MOTTLED, W/GR & GN. GR			DOL 11 min			
	25		JKR ABOVE 25.0 / + P. BR			GRN 3.6			
	26		Below 27.0-27.2, 27.8-		24.0	REL 3.6			
	27		23.1, CL ABOVE 29.6, SLT			LOSS #			
	28		Below 29.6, strongly BRN			UNACQ			
	29		22.9-23.1, 23.4-24.0, 25.0-		27.9	DEP 23.6			
	30		25.7, 26.4-28.6			PULL#6			
	31					PULL#7			
463.1	32		BOTTOM HOLE		8	START 19:46			
	33					END 20:05			
	34					TIME 19 min			
	35					DOL 19 min			
	36					GRN 3.6			
	37				31.2	REL 2.8			
	38					LOSS .8			
	39				9	UNACQ 8			
	40				32.3	DEP 32.3			
	41								
	42								
	43								
	44								

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1980 OF - 625-503

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-36/2

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		<b>ORD</b>	<b>OPH-CD</b>	
2. LOCATION (Coordinates or Station) <b>MONO M-37 STA 0+70A</b>			10. SIZE AND TYPE OF BIT <b>4.5/2</b>	
3. DRILLING AGENCY <b>W. G. JACOBS</b>			11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <b>M.S.L.</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>M-37/1</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>	
5. NAME OF DRILLER <b>WAYNETICE</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES <b>10</b>	
7. THICKNESS OF OVERBURDEN <b>Ø 496.3</b>			15. ELEVATION GROUND WATER <b>N/A</b>	
8. DEPTH DRILLED INTO ROCK <b>39.6</b>			16. DATE HOLE <b>2/9/89</b>	STARTED <b>2/9/89</b> COMPLETED <b>2/9/89</b>
9. TOTAL DEPTH OF HOLE <b>461.7</b>			17. ELEVATION TOP OF HOLE <b>496.3</b>	
			18. TOTAL CORE RECOVERY FOR BORING <b>34.9</b>	
			19. SIGNATURE OF INSPECTOR <b>[Signature]</b>	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.3	1		SLS/CLS			PULL #1
	2		SLS GR, S-MH, SA 0.7-2.0, 2.2-2.8, CLS GR, S, SA 0.0-0.7		1	START 10:35 END 10:45 TIME 10min DRL 20min RHW 4.6
493.5	3		2.0-2.2 SA Below 2.3, BBN 1.6-2.2		3.5	REC 4.4 LOSS 0.2 UNACC 0.2 T/Dep 9.6
	4		SANDSTONE		2	Dep 8.1
	5		GR, MH, F.9.			
490.1	6					PULL #2
	7		SLS			START 11:00
	8		GR, S-MH, SA, BBN DNS		7.2	END 11:15 TIME 15min
	9		0.3 SPACING, CL ABOVE 13.0			DRL 15min
	10		+ Below 21.5, BBN NICH		3	RHW 5.0 REC 5.0 LOSS 0 UNACC 0 Dep 9.9
	11		9.0-9.6 10.0-10.3, 18.4-18.8		10.3	PULL #3
	12		19.6-19.7, SOLID 10.3-13.0			START 12:00
	13		SA 19.9-15.5, CLS GR, S, SA		4	END 12:40 TIME 40min DRL 40min
	14		20.1-20.8			RHW 5.1 REC 5.1 LOSS 0 UNACC 0
	15				18.0	T/Dep 19.6
	16				5	Dep 15.9
	17					PULL #4
	18				17.5	START 1:00
	19				6	END 1:20 TIME 20min
	20				(CONT)	DRL 20min RHW 5.2 REC 5.2 LOSS 0 UNACC 0 Dep + T/Dep 19.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
**GALLIPOLIS LOCK & DAM**  
HOLE NO.  
**M-37/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. M-3711		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK+DAM		OPH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT		6	PULL #5
	21				21.0	START 1:30
						END 1:55
	22					TIME 25min
473.8						DRL 25min
	23		ICL		7	RHN 4.8
	24		R. BL, S-M.H. SH, OCC			REL 4.7
	25		MOTTLED W/GR-SNGR.			LOSS 0.1
	26		SCC SLT, 14GR. ABOVE 25.0			UNACCD
	27		SPURSELY BKN MICH 29.5		24.7	DEPT+T/DEP 24.7
	28		29.9, 29.9-29.7, 33.7-33.7			PULL #6
	29		CL ABOVE 31.2 + SH BELOW		8	START 2:10
	30					END 2:30
	31					TIME 20min
	32					DRL 20min
	33					RHN 4.9
	34				28.5	REL 4.9
461.9						LOSS 0
	35					UNACCD
	36				9	DEP 29.7 TLO=29.6
	37					PULL #7
	38					START 2:45
	39					END 3:10
	40				32.0	TIME 25min
	41					DRL 25min
	42					RHN 4.8
	43				10	REL 4.8
	44					LOSS 0
			BOTTOM HOLE		39.4	UNACCD
						DEP 39.4 TLO=39.4

ENG FORM 1836-A (RR 1110-1-1801) GPO 1980 OF - 628-902

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. M-3711

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>M-37/2</u>	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>		<u>ORN-CD</u>		SHEET OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <u>MONO M-37 STA 1+5A</u>		10. SIZE AND TYPE OF BIT <u>4 1/2" H"</u>		11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. G. JAGUES</u>		12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u>	
4. HOLE NO. (As shown on drawing title and file number) <u>M-37/2</u>		14. TOTAL NUMBER CORE BOXES <u>8</u>		15. ELEVATION GROUND WATER <u>N/A</u>		UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>STEVE FRY</u>		16. DATE HOLE <u>2/9/89</u>		STARTED <u>2/10/89</u>		COMPLETED	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE <u>495.9</u>		18. TOTAL CORE RECOVERY FOR BORING <u>31.9</u>			
7. THICKNESS OF OVERBURDEN <u>0 495.9</u>		19. SIGNATURE OF INSPECTOR <u>LMD</u>					
8. DEPTH DRILLED INTO ROCK <u>31.9</u>							
9. TOTAL DEPTH OF HOLE <u>464.0</u>							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
495.9	1		SANDSTONE M.H. GR, BKN FROM .05 TO .16 THIN CLAY LINES O.I. LOSS 495 - 494.1		Box 1	PULL #1 START 8.45 END 9.00 TIME 15min DRL 15min RAW - REC 4.4	
491.5	2				3.0	LOSS 0.1 UNACCL 0.1 T/DEP 4.5 DEP 5.0	
	3						
	4						
	5		CLS/SLT		Box 2	PULL #2 START 9.15 END 9.30 TIME 15min DRL 15min RAW - REC 4.9	
	6		INTERBEDD, SH, THIN BED TO FLAGGY, NO SL		7.3	LOSS 0 UNACCL T/DEP 8.9 DEP 9.8	
	7						
	8						
	9						
	10						
	11						
489.4	12		SANDSTONE M.H. GR, F., 0.5 60° FRAC @ 12.6 RESEALED, 0.3 LOSS		Box 3	PULL #3 START 9.44 END 10:05 TIME 21min DRL 21min RAW - REC 4.0 T/DEP 13.2 LOSS 0.3 UNACCL 0.3 DEP 14.2	
481.9	13				14.9		
	14						
	15		CLS dk. GR, M.H., SH (CLAY IN) 0.2, S. CRUMBLY 20 @ 14.0 W/SCAT, SLT ZONES NEAR BASE 1.2 LOSS 18.2 TO 21.6		Box 4	PULL #4 START 10.20 END 10.44 TIME 24min DRL 24min RAW - REC 4.2 T/DEP 18.2 LOSS - UNACCL - DEP 19.2 PULL #5	
	16				18.2		
	17						
	18						
	19						
	20						
			(CONT)	CONT			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. M-37/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK DAM		ORH-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 5	PULL #3 START 11:00
	21				6	END 11:17 TIME 17min T/DEP 21.6 DEL 17min RAN -
474.1	22		ICL			DEL 17min
	23		M.H. R, SLX, with SCAT		22.9	RAN - REC 2.2
	24		5. 20			LOS 1.2
	25				Box 7	UNAC 1.2 DEP 22.4 PULL #6
	26					START 9:50 REC 4.8 END 10:30 LOS 0.1 TIME 40min UNAC 0.1 DEL 4min RAN - T/DEP 22.9
	27					T/DEP 22.9
	28					PULL #7 START 13:50 RAN - END 4:12 REC 10 TIME 22min LOS 3.5 DEL 22min UNAC 5.5 DEP 28.4
	29				29.4	PULL #8 START 4:43 END 15:25 T/DEP 29.4 TIME 42min
	30				Box 8	DEL 12min UNAC - RAN - REC 2.7 LOS -
	31					DEP 30.9 PULL #9
464.0	32		BOTTOM HOLE		31.9	T/DEP 31.9 START 4:15 REC 16 END 4:30 LOS 0.5 TIME 15min UNAC 0.5 DEL 15min RAN - DEP 33.9
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
ADM 57

1836-A

(RR 1110-1-1801)

GPO 1980 OF - 628 - 605

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

M-37/2



DRILLING LOG		DIVISION	INSTALLATION	Hole No.	SHEET	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		<b>RED</b>	<b>ORH-C-D</b>	<b>M-38/1</b>	<b>1</b>	
2. LOCATION (Coordinates or Station) <b>MOND M-30 STA 1725A</b>			10. SIZE AND TYPE OF BIT <b>4 1/2"</b>	OF 2 SHEETS		
3. DRILLING AGENCY <b>WIG. JACQUES</b>			11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <b>M.S.L.</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>M-38/1</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
5. NAME OF DRILLER <b>WAYNE TICE</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED <b>N/A</b>	UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES <b>9</b>			
7. THICKNESS OF OVERBURDEN <b>456.1</b>			15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>32.1</b>			16. DATE HOLE STARTED <b>2/8/89</b> COMPLETED <b>2/9/89</b>			
9. TOTAL DEPTH OF HOLE <b>464.5</b>			17. ELEVATION TOP OF HOLE <b>496.1</b>			
			18. TOTAL CORE RECOVERY FOR BORING <b>32.0</b>			
			19. SIGNATURE OF INSPECTOR <b>J.M.D.</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		Interbedded ss/sls UCRT, 0.1 RR J.T. INSS 1.1-1.9			PULL #1 START 8:30 END 8:50 TIME 20min DRL 20min RAN - REC 4.3 LOSS 0 UNACC 0 T/DEP 4.3
493.8	2		CLS S.M.-DEGR. UE.S. 2.3-2.6		1	
491.9	3		SANDSTONE SLY, A-M.G. M.H. M.G.R TIGHT CONTACT		3.8	
491.3	4		CLS S.-M.H. M.-DK.GR W/ OCC 3m ss incl f SLY LAM. BKN 7.3-9.0 W/O. 3 L.C		2	
	5				7.0	PULL #2 START 9:01 END 9:20 TIME 19min UNACC - DRL 19min RAN - REC 4.1 LOSS - DEP 9.9
486.5	6				3	
485.4	7		SLs CLY, S.-M.H. M.-DK.GR.SLY			
485.8	8		SS SLY, R. M.H. M.G.R		11.0	PULL #3 START 9:30 END 9:50 TIME 20min DRL 20min RAN - REC 9.8 LOSS - UNACC - DEP 13.8
483.9	9		SLs CLY, S.-M.H. M.-DK.GR. BKN CLY LENS 11.9-12.3		4	
482.3	10		SANDSTONE SLY, R.G. M.H. M.G.R GRADING SLY		14.2	
	11		SLs S.-M.H. M.G.R W/CLS		5	PULL #4 START 10:00 END 10:40 TIME 40min LOSS - DRL 40min UNACC - RAN - REC 5.2 DEP 4.1/DEP 17.9
	12		LENSES CLS: 14.2-15.1		6	PULL #5 START 10:50 END 11:10 TIME 20min CONC
	13		SLI SA SLs 15.1-17.0			
	14		R. BR. CLS 17.0-17.4			
	15		M SPACED HOROTs BELOW 17.4			
	16					
	17					
	18					
	19					
	20					

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PROJECT  
**GALLIPOLIS LOCK & DAM**

HOLE NO.  
**M-38/1**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.1		Hole No. <u>M38/1</u>	
PROJECT <u>GALLIPOLI'S LOCK'S DAM</u>			INSTALLATION <u>GEN-CD</u>		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		<u>SLS</u>			<u>PULL #5</u>
	21		<u>(CONT)</u>		<u>6</u>	DRL 20 min RAN — REC 4.7 LOSS 0 UNACCD
<u>474.4</u>					<u>21.5</u>	
	22		<u>ICL</u>			<u>DEP+T/DEP 22.9</u> <u>PULL #6</u>
	23		<u>S-M.H. GR TOP, SLK</u>		<u>7</u>	START 8:00 END 8:36 TIME 36 min
	24		<u>OKN TO 27.9</u>			DRL 36 min
	25				<u>25.4</u>	RAN — REC 5.0
	26				<u>8</u>	LOSS 0 UNACCD
	27					<u>DEP 28.0</u> <u>T/DEP 27.9</u>
	28				<u>28.3</u>	<u>PULL #7</u>
	29					START 9:21 END 9:50 TIME 29 min
	30				<u>9</u>	DRL 29 min RAN — REC 4.7
<u>464.0</u>	32		<u>BOTTOM HOLE</u>		<u>32.1</u>	LOSS 0 UNACCD <u>T/DEP 32.6</u>
	33					<u>DEP 34.2</u>
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
JUN 67 **1836-A**

(NR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLI'S LOCK'S DAM

HOLE NO.  
M38/1

DRILLING LOG		DIVISION	INSTALLATION	Hole No. <u>M-38/2</u>		
1. PROJECT <u>GALLIPOLIS LOCK DAM</u>		<u>ORD</u>	<u>ORH-CD</u>	SHEET 1 OF 2 SHEETS		
2. LOCATION (Coordinate or Station) <u>MON. M-38 STA. 1449 A</u>		10. SIZE AND TYPE OF BIT <u>4" VSL "</u>				
3. DRILLING AGENCY <u>W. G. JACQUES</u>		11. DATUM FOR ELEVATION SHOWN (FEET or METER) <u>M.S.L.</u>				
4. HOLE NO. (As shown on drawing title and file number) <u>M-38/2</u>		12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>				
5. NAME OF DRILLER <u>DAVID HARPER</u>		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <u>9</u>				
7. THICKNESS OF OVERBURDEN <u>0 476.6</u>		15. ELEVATION GROUND WATER <u>N/A</u>				
8. DEPTH DRILLED INTO ROCK <u>33.0</u>		16. DATE HOLE STARTED <u>2/7/87</u> COMPLETED <u>2/7/87</u>				
9. TOTAL DEPTH OF HOLE <u>463.6</u>		17. ELEVATION TOP OF HOLE <u>496.6</u>				
		18. TOTAL CORE RECOVERY FOR BORING <u>33.0</u> %				
		19. SIGNATURE OF INSPECTOR <u>L.M.L.</u>				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
495.8			SANDSTONE shy, p.g., m.h., m.g.R. VE. BKN W O. 2.6-3.5			PULL #1
	1		CLS		Box 1	START 9:15
	2		S.-m.h., shy, m. dk.g.R			END 9:37
	3		VE. S. 2.6-3.5			TIME 22min
493.1						DEL 22min
	4		SANDSTONE		3.8	RAW -
	5		shy, p.g., m.h., m.g.R			REC 4.5
	6		shy. S.O. SLK CONTACT		Box 2	LOSS 0.2
490.2						UNAC 0.2 T/DEP 4.7 DEP 5.0
	7		CLS			PULL #2
	8		S.-m.h., m. -dk.g.R		7.5	START 9:50
	9		CLOSELY SPACED PTGS			END 10:12
487.3			w/lt. COQ / PLD		Box 3	TIME 22min
	10		CLS/SLs			DEL 22min UNAC 0
	11		shy, S.-m.h., m. dk.g.R			RAW -
	12					REC 4.6
483.2					Box 4	LOSS 0
	13					DEP 9.3 T/DEP 9.2
	14		SANDSTONE		11.1	PULL #3
482.0			VE. shy, p.g., m.h., m.g.R			START 10:17
	15		O. 42 - VERT. IRR. TT. 13.7-14.3			END 10:50
	16		SLs/CLS			TIME 13min
	17		INTERRUPED, S.-m.h., m. -		Box 5	DEL 13min
	18		dk.g.R OCC shy: CLS			RAW -
	19		SPACED HOR. PTGS. 16.7-			REC 3.6
477.3			W/lt. GR. CL COQ / PLD.		14.1	LOSS 0
	20		TRANS. ZONE. m. dk.g.R. S-m			UNAC 0
						DEP 14.9
						PULL #4
					Box 6	START 10:46
						END 11:17
						TIME 31min
						DEL 31min
					19.4	RAW -
					Box 6	REC 7.4
						LOSS 0
						UNAC 0
						(CONT)

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO.  
M-38/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS Lock & DAM				496.6		M-38/2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	20		TRANS. ZONE			PULL #4	
	21		M-DK. GR. S. - M.H., SIR		6		
	22				22.1	T/DEP 22.3	
	23					DEP 22.9	
472.0	24				7	PULL #5	
	25		ICL			START 11:35	
	26		R. BR, S.-M.H., BKN, SLK		25.9	END 11:05	
	27		2.4 L.C. BTWN 25.4 & 26.7			TIME 15 MIN	
	28					DRL 15 MIN T/DEP 25.4	
	29					RAW -	
	30					REC 3.1 UNACC 0	
	31					LOSS 0	
	32				8	DEP 27.4	
	33		BOTTOM HOLE			PULL #6	
463.6	34					START 1:05	
	35					END 1:39	
	36				29.5	TIME 34 MIN	
	37					DRL 34 MIN	
	38					RAW -	
	39					REC 5.2	
	40				9	LOSS 2.4	
	41					UNACC 2.8	
	42					T/DEP 33.1	
	43					DEP 33.9	
	44						

ENG FORM 1836-A (RR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS Lock & DAM

HOLE NO. M-38/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>M-39/1</i>	
1. PROJECT <i>GALLI POLIS LOCK &amp; DAM</i>		2. LOCATION (Coordinate or Station) <i>MONO M-39 STA 1+57 A</i>		3. DRILLING AGENCY <i>W. E. JACOBS</i>		4. HOLE NO. (As shown on drawing title and file number) <i>M-39/1</i>	
5. NAME OF DRILLER <i>WAYNE TICE</i>		6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN <i>496.3</i>		8. DEPTH DRILLED INTO ROCK <i>32.9</i>	
9. TOTAL DEPTH OF HOLE <i>463.4</i>		10. SIZE AND TYPE OF BIT <i>4 1/2" H"</i>		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <i>M.S.L.</i>		12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-57 MOBILE</i>	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <i>N/A</i>		14. TOTAL NUMBER CORE BOXES <i>9</i>		15. ELEVATION GROUND WATER <i>N/A</i>		16. DATE HOLE <i>2/7/87</i>	
17. ELEVATION TOP OF HOLE <i>496.3</i>		18. TOTAL CORE RECOVERY FOR BORING <i>32.9</i>		19. SIGNATURE OF INSPECTOR <i>[Signature]</i>		20. REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
ELEVATION <i>496.3</i>	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS	
<i>495.8</i>			SANDSTONE sly, f.g., m.h., m.gr			PULL #1	
<i>495.4</i>			CLs sly, dk gr, s.-m.h. sh. @ 0.9			START 13:10	
<i>494.5</i>			SANDSTONE sly, f.g., m.h., m.gr thin			END 13:19	
			(Co. 2) ST bdl plus.			TIME 9min	
	2		CLs		Box 1	DEL 9min	
	3		Sly, s.-m.h., mid dk gr			RAW -	
	4		VE BKN 1.8-4.2		3.9	REC 5.1	
<i>491.7</i>						LOSS 0	
	5		SANDSTONE		Box 2	UNACCL 0	
	6		sly, f.-m.g., m.h., m.gr			T/DEP + DEP 5.1	
	7		UCE PTg 4.6-4.7; MASS			PULL #2	
<i>489.1</i>			below 4.7; CORE SPIN @ 7.2			START 13:52	
	8		SLS		7.2	END 14:10	
<i>488.0</i>			SA (TRANS) s.-m.h., m. dk gr			TIME 26min	
	9		CLs		Box 3	DEL 26min	
	10		Sly, s.-m.h. OCC sly, s.-m.h.			RAW -	
	11		m.g.r. R. BR 8.6-9.7; sly		10.8	REC 9.0	
<i>484.2</i>			10.3-10.8 ICL sly, R. BR			LOSS 0	
	12		11.4-11.9; BKN w/SLK			UNACCL 0	
	13		11.9-12.1		Box 4		
<i>482.2</i>			SANDSTONE			T/DEP + DEP 14.0	
	14		sly, f.g., m.h., m.gr, bkn		14.1	PULL #3	
	15		(mech) 13.6-14.1 w/huge			START 14:30	
	16		CLs-		Box 5	END 15:01	
	17		Sly, m.-dk. gr. s.-m.h.			TIME 31min	
	18		PTs sly bkn (mech)		17.8	DEL 31min	
	19		14.1-14.3 R. BR (ICL)			RAW -	
	20		18.2-18.3: f		Box 6	REC 9.3	
						LOSS 0	
						UNACCL 0	
ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.				PROJECT <i>GALLI POLIS LOCK &amp; DAM</i>		HOLE NO. <i>M-39/1</i>	

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK & DAM				496.3		M-39/1	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
474.7	20				6	PULL #3 (CONT)	
	21				11.5		
472.9	22		TRANS. ZONE				
	23				7	T/DEP 23.4	
	24		ICL			DEP 23.0	
	25		S.-m. h, R. br, SLK			PULL #4	
	26		L.C. Btwn 23.4		75.4	START 3:15	
	27				8	END 3:58	
	28					Time 43 min	
	29					DEL 43 min	
	30					RAN 9.5	
	31					REC 9.4	
	32				28.3	LOSS 0.1	
443.4	33		Bottom HOLE		9	UNACC 0.1	
	34					DEP 31.0	
	35					DEP + T/DEP 32.9	
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. M-39/1

DRILLING LOG		DIVISION	INSTALLATION	Hole No. <i>M-39/2</i>		
ORD		DEH-CD		SHEET 1 OF 2 SHEETS		
1. PROJECT <i>GALLIPOLIS LOCK &amp; DAM</i>			10. SIZE AND TYPE OF BIT <i>4 1/2"</i>			
2. LOCATION (Coordinate or Station) <i>MDND M-39 STA 2+03A</i>			11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <i>M.S.L.</i>			
3. DRILLING AGENCY <i>W.G. JACOBS</i>			12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-53 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>M-39/2</i>			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <i>N/A</i>			
5. NAME OF DRILLER <i>DAVID HARDER / FRY</i>			14. TOTAL NUMBER CORE BOXES <i>9</i>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <i>N/A</i>			
7. THICKNESS OF OVERBURDEN <i>0 496.5</i>			16. DATE HOLE STARTED <i>2/7/89</i> COMPLETED <i>2/7/89</i>			
8. DEPTH DRILLED INTO ROCK <i>33.4</i>			17. ELEVATION TOP OF HOLE <i>496.5</i>			
9. TOTAL DEPTH OF HOLE <i>463.1</i>			18. TOTAL CORE RECOVERY FOR BORING <i>33.4</i>			
			19. SIGNATURE OF INSPECTOR <i>J.M.H.</i>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1		SLS CLY, S-M.H., DK.G.R., SHY THINSH. PTGS 0.0-1.4 TRANS			PULL #1 START 2:20 END 2:36 TIME 16min
496.1	2		SQ 1.7-2.9: CL COQ		1	DEL 16min RAN 4.8 REC 4.8
	3		SANDSTONE SHY P-M.G., M.H. M.G.R.		3.7	LOSS 0 UNACCL 0
	4		Grading SHY @ 4.2			LOSS 0 UNACCL 0 DEP 9.9
491.7	5		SLS			PULL #2
	6		CLY-S-M.H., M. DK.G.R.		2	START 2:45 END 3:00 TIME 15min
	7		VE SHY 4.8-5.5: CL COQ		7.2	DEL 15min RAN 4.4 REC 4.3
	8		PTGS @ 5.4: 5.5: huy. CL			LOSS 0.1 UNACCL 0.1 DEP 9.2
	9		SE @ 7.6-8.1 W/O. L.C		3	PULL #3
	10		SHY PTGS 9.2-9.6: 12.0-12.5		10.8	START 3:07 END 3:20 TIME 13min
489.0	11					DEL 13min RAN 4.4 REC 4.4
	12				4	LOSS 0 UNACCL 0 DEP 13.4
482.9	13		SLS-SQ (TRANS ZONE)			PULL #4
	14		SANDSTONE		18.6	START 15:50 END 16:19 TIME 29min
481.6	15		SHY P.G., M.H. M.G.R. H.A. O, IRE.			DEL 29min RAN 10.5 REC 9.3
	16		COQ JT. H.A. O-14.4: 16KN		5	LOSS 0.7 UNACCL 0.7
	17		14.4-14.9: GRADING INTO		18.2	(CONT)
	18		SLS/CLS		6	(CONT)
	19		INTERBEDD WITHIN -huy			
	20		GR-DKGE. SE: SQ 14.9-16.2			
			5. huy CLY SE. 6TWN			
			17.2: 20.2 W/OCL R.6R			
			SLK. ICL, 20.5: 22.0B			
			AREA OF 0.7LL			
			(CONT)			

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PROJECT *GALLIPOLIS LOCK & DAM* HOLE NO. *M-39/2*

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.5		Hole No. M-39/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.3	20		SLS/CLS			(CONT) PULL #4
	21				6	
	22				22.2	
	23		ICL			
	24		S-M.H., BR.GR.-R.BR			DEP 29.1
	25		SLK VE.S. bkn 22.9-			PULL #5
	26		23.4: 5-23.4-29.1 IVE		7	START 16:43
	27		bkn 29.1-28.6 w/10AC			END 17:17
	28				29.4	Time 39min
	29					DRL 39min
	30				8	LAN 9.3
	31					REL 9.3
	32					LOSS 0
	33					UNACQ
463.1	34		Bottom HOLE		9	
	35				32.4	DEP 33.4
	36					
	37					
	38					
	39					
	40					
	41					
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ENG FORM  
JUN 67

1836-A

(HR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-39/2



DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>M-40/1</i>	
		<i>DRD</i>		<i>DRH-CD</i>		SHEET 1 OF 2 SHEETS	
1. PROJECT <i>GALLIPOLIS LOCK DAM</i>				10. SIZE AND TYPE OF BIT <i>4 1/2"</i>			
2. LOCATION (Coordinate or Station) <i>MPAD M-40 STA 2+13A</i>				11. DATUM FOR ELEVATION SHOWN (FEET or METER) <i>M.S.L</i>			
3. DRILLING AGENCY <i>W. B. JAMES</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B. 57 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>M-40/1</i>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>WAYNE TICE</i>				14. TOTAL NUMBER CORE BOXES <i>8</i>		UNDISTURBED <i>N/A</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <i>N/A</i>		16. DATE HOLE STARTED <i>2/7/87</i> COMPLETED <i>2/7/87</i>	
7. THICKNESS OF OVERBURDEN <i>0 496.4</i>				17. ELEVATION TOP OF HOLE <i>496.4</i>			
8. DEPTH DRILLED INTO ROCK <i>39.0</i>				18. TOTAL CORE RECOVERY FOR BORING <i>34.0'</i>			
9. TOTAL DEPTH OF HOLE <i>462.4</i>				19. SIGNATURE OF INSPECTOR <i>LMD</i>			
ELEVATION <i>a</i>	DEPTH <i>b</i>	LEGEND <i>c</i>	CLASSIFICATION OF MATERIALS (Description) <i>d</i>	% CORE RECOVERY <i>e</i>	BOX OR SAMPLE NO. <i>f</i>	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) <i>g</i>	
<i>496.4</i>	<i>1</i>		<i>SLs</i> <i>clay, s-m.h. dk gr, shy</i> <i>bkn 0.0 - 0.3 w/oi/lc</i>			<i>PULL #1</i> <i>START 16:20</i> <i>END 16:40</i> <i>TIME 20min</i> <i>DEL 20min</i> <i>RAN 4.2</i> <i>REC 4.2 UNACCO.</i> <i>LOSS 0.1 DEP 9.3</i>	
<i>494.4</i>	<i>2</i>		<i>SANDSTONE</i> <i>shy, m.gr, m.g bkn</i> <i>2.5-3.3 (MECH)</i> <i>0. PTGS w/CORE SPIN</i> <i>4.9 PTGS 5.5; 6.0</i>		<i>3.8</i>		
	<i>3</i>						
	<i>4</i>						
	<i>5</i>						
<i>490.0</i>	<i>6</i>				<i>2</i>	<i>PULL #2</i> <i>START 16:45</i> <i>END 17:20</i> <i>TIME 35min</i> <i>DEL 35min</i> <i>RAN 9.8</i> <i>REC 5.2</i> <i>LOSS 4.6</i> <i>UNACCL 4.6</i>	
	<i>7</i>		<i>CLS/SLs</i>		<i>7.2</i>		
	<i>8</i>		<i>interbedd. dk gr s-m.h</i>				
	<i>9</i>		<i>shy w/ thin to hvy ch</i>				
	<i>10</i>		<i>SE VE bkn. 7.2-14.1 w/</i>				
	<i>11</i>		<i>4.6 L.C. : VE bkn. 14.1</i>		<i>3</i>		
	<i>12</i>		<i>-14.4 : CORE SPINS</i>				
	<i>13</i>		<i>@ 14.4, 14.9 : MASS</i>				
	<i>14</i>		<i>15.2-18.9 (mostly SLs)</i>				
	<i>15</i>		<i>bkn 18.9-19.3 : 20.7</i>		<i>15.2</i>	<i>PULL #3</i> <i>START 17:30</i> <i>END 18:30</i> <i>TIME 60min</i> <i>DEL 60min</i> <i>RAN 8.5</i> <i>REC 3.3</i> <i>LOSS 0.2</i> <i>UNACCL 0.2</i>	
	<i>16</i>		<i>-21.7</i>				
	<i>17</i>				<i>4</i>		
	<i>18</i>						
	<i>19</i>				<i>18.9</i>		
	<i>20</i>				<i>5</i>		
			<i>(CONT)</i>		<i>(CONT)</i>	<i>(CONT)</i>	

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PROJECT *GALLIPOLIS LOCK DAM* HOLE NO. *M-40/1*

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.4		Hole No. M-40/1	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
479.7	20		CLS/SLS		5	PULL #3 (CONT)
	21					
	22		ICK		22.6	DEP 22.6
	23		R.62, S-M.A, SLK			PULL #4
	24		BKN W/10.1 L.C. BTWN			START 18.45
	25		21.7 & 22.2			END 19.20
	26		1.0 L.C. BTWN 27.6 &		6	TIME 35min
	27		34.0			DEL 35min
	28					RAN 5.0
	29					REC 5.0
	30					LOSS 0
	31					UNACCD
	32					DEP 27.6
	33					PULL #5
	34		BOTTOM HOLE		27.9	START 19.30
462.4	35					END 20.00
	36					TIME 30min
	37					DEL 30min
	38					RAN 6.4
	39				7	REC 5.4
	40					LOSS 1.0
	41					UNACCD 1.0
	42					DEP 39.0
	43					
	44					

ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. M-40/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>M-90/2</u>	
		<u>ORD</u>		<u>ORH-CD</u>		SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>				10. SIZE AND TYPE OF BIT <u>4 X 5 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MONO M-90 STA (2+93) A</u>				11. DATUM FOR ELEVATION SHOWN (FEET or METERS) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. G. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOD. LE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>M-90/2</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		UNDISTURBED	
				<u>N/A</u>		<u>N/A</u>	
5. NAME OF DRILLER <u>STEVE ERVE</u>				14. TOTAL NUMBER CORE BOXES <u>9</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>0</u> <u>496.9</u>				16. DATE HOLE STARTED <u>2/7/89</u> COMPLETED <u>2/7/89</u>			
8. DEPTH DRILLED INTO ROCK <u>33.1</u>				17. ELEVATION TOP OF HOLE <u>496.9</u>			
9. TOTAL DEPTH OF HOLE <u>463.8</u>				18. TOTAL CORE RECOVERY FOR BORING <u>33.1</u>			
				19. SIGNATURE OF INSPECTOR <u>LMM</u>			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SLS CLY, dk. gr, s-m.h, shy UE BKN 0.0-2.5. w/a? L.C. UE 5 2.5-2.9		Box 1	PULL #1 START 18:20 END 18:35 TIME 15min DRL 15min RAN 4.8 REC 4.1 LOSS 0.7 UNACCL 0.1 DEP 4.8	
494.0	3		SANDSTONE shy. P. mg, n.h, mg h.h, dk + 31-3.6		3.8		
492.9	4						
	5		CLS/SLS Interbed-dk gr, s-m.h shy w/occ thin-hyocl SE: closely spaced hor PTGS throughout 0.7 L.C. btwn 4.5-9.8: ues 7.8-9.8: closely spaced PTGS 9.8-11.7 w/pos LOSS		Box 2	PULL #2 START 18:50 END 19:25 TIME 35min DRL 35min RAN 5.0 REC 4.3 LOSS 0.7 UNACCL 0.7 DEP 9.8	
	6				8.0		
	7						
	8				Box 3		
	9						
	10						
	11						
485.2	12		SANDSTONE shy, figo, m.h., m.gr.		12.2	PULL #3 START 19:35 END 20:20 TIME 45min DRL 45min RAN 9.7 REC 8.8 LOSS 0.9 UNACCL 0.9 DEP 18.5	
	13						
482.9	14				Box 4		
	15		CLS/SLS Interbed, s-m.h, dk. gr. closely spaced PTGS w/occ COPE SPINS (TR. CL. SE) 14.0- 19.5 w/0.9 L.C.		16.0		
	16						
	17				Box 5		
	18						
	19						
477.6	20		SLS (CONT)		(CONT)	PULL #4	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-90/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS LOCK DAM			ORH-CD		2	
ELEVATION			DEPTH		LEGEND	
a			b		c	
CLASSIFICATION OF MATERIALS (Description)			% CORE RECOVERY		BOX OR SAMPLE NO.	
d			e		f	
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)			g		h	
476.5	20		5.5 M.H. DK. GR		5 20.4	PULL #4
	21		ICL			START 21:05
	22		BR GR. - R. BR, S-M.H.		6	END 21:50
	23		SLK UEBKN TO 29.1			TIME 45min
	24		1.2 LC BTWN 29.1			DEL 45min
	25		+ 33.1		24.3	RAN 9.6
	26					REC 9.6
	27				7	LOSS 0
	28					UNACC 0
	29					PULL #5
	30				28.2	START 23:20
	31					END 23:40
	32				8	TIME 20min DEP 29.1
	33					DEL 20min
	34					RAN 4.0
	35					REC 2.8
	36				31.1	LOSS 1.2
	37				9	UNACC 1.2
463.8	33		BOTTOM HOLE		33.1	DEP 33.1
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
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ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1968 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

M-40/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM		ORD		ORH-CD			
2. LOCATION (Coordinates or Station) MOND M-91 STA 2+53.4				10. SIZE AND TYPE OF BIT 4 1/2 IN			
3. DRILLING AGENCY W. G. JABUES				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) M-91/1				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
5. NAME OF DRILLER WAYNE TICE				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES 10			
7. THICKNESS OF OVERBURDEN 497.3				15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 35.1				16. DATE HOLE STARTED 2/7/89 COMPLETED 2/8/89			
9. TOTAL DEPTH OF HOLE 462.2				17. ELEVATION TOP OF HOLE 497.3			
				18. TOTAL CORE RECOVERY FOR BORING 35.1			
				19. SIGNATURE OF INSPECTOR LTD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.3	1		SLS CLY, S-m.h., dk. gr., shy brn 0.0-0.5' CLS LEN			PULL #1	
	2		1.9-2.3 becoming sa @ 2.7		Box 1	START 21:00 END 21:15 TIME 15 min DEL 15 min RAN 4.8 REC 4.8	
494.2	3				3.6	LOSS 0 UNACL 0 DED 4.8	
	4		SANDSTONE shy. f-m.g., m.h., m.gr. brn 6.1-6.4 becoming ve shy 6.1-7.2		Box 2	PULL #2	
	5					START 21:20 END 21:50 TIME 30 min DEL 30 min RAN 9.9 REC 9.9	
490.1	7				7.2	LOSS 0 UNACL 0	
	8		CLS/SLS Interbedd, dk. gr. S-m.h.		Box 3		
	9		VE SHY TO 7.9				
	10				11.0		
	11						
	12						
483.9	13				Box 4		
483.3	14		SANDSTONE shy, f.g., m.h., m.gr., 0.7T. 13.4-13.6		14.7	DED 14.7	
	15		CLS/SLS Interbedd, dk. gr., S-m.h.			PULL #3	
	16		sa (v. f.g.) 20.0-21.1		Box 5	START 22:00 END 22:40 TIME 40 min DEL 40 min RAN 9.8 REC 9.8	
	17				18.5	LOSS 0 UNACL 0	
	18				Box 6		
	19					(CONT)	
	20						

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK & DAM			497.3		M-41/1	
CLASSIFICATION OF MATERIALS (Description)			% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
ELEVATION	DEPTH	LEGEND	e	f	g	
476.2	20			Box 6	PULL #3 (CONT)	
	21					
	22			22.2		
	23					
	24			Box 7		
	25				DEP 24.5	
	26			25.6	PULL #4	
	27			Box 8	START 22:50	
	28				END 23:50	
	29				TIME 60 min	
	30				DEL 60 min	
	31			27.8	RAN 3.2	
	32				REC 3.2	
	33				LOSS 0	
	34			Box 9	UNACCL 0	
	35				PULL #5	
	36			31.6	START 8:40	
	37				END 9:09	
	38				TIME 29 min	
	39				DEL 29 min	
	40				RAN 7.4	
	41				REC 5.3	
	42			Box 10	LOSS 2.1	
	43				UNACCL 2.1	
462.2	35			35.1	DEP 35.1	
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					
	45					
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ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. M-41/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>M-41/2</u>	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>		<u>ORH-CD</u>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) <u>TRNO M-41 STA 3+23 A</u>				10. SIZE AND TYPE OF BIT <u>4 1/2"</u>		11. DATUM FOR ELEVATION SHOWN (TBM or BM) <u>M.S.L.</u>	
3. DRILLING AGENCY <u>W. G. JAMES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>M-41/2</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <u>N/A</u>		DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>DAVE HARPER</u>				14. TOTAL NUMBER CORE BOXES <u>9</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <u>2/8/89</u>		STARTED <u>2/8/89</u> COMPLETED <u>2/8/89</u>	
7. THICKNESS OF OVERBURDEN <u>497.1</u>				17. ELEVATION TOP OF HOLE <u>497.1</u>			
8. DEPTH DRILLED INTO ROCK <u>33.2</u>				18. TOTAL CORE RECOVERY FOR BORING <u>33.2</u>			
9. TOTAL DEPTH OF HOLE <u>463.9</u>				19. SIGNATURE OF INSPECTOR <u>L.M.A.</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		SLT CLY, m-dk. g.e. s-mh. bkn, shly 0.0-1.2; grading		1	PULL #1 START 9:55 END 8:15 TIME 20 min DRL 20 min RAN - REC 9.9 LOSS 0 UNACL 0 DEP 9.9	
497.1	3		SANDSTONE shly, p-m. g, m.h., m.g.e		3.6	PULL #2 START 8:30 END 8:42 TIME 12 min DRL 12 min RAN - REC 3.6 LOSS 0 UNACL 0 DEP 9.5	
492.9	4		CLS shly. OCC, sly, s-mh. m-dk. g.e. shly 42-50: shly. PTgs w/TP. gr. CL. cor f SE 7.5-12.7 w/loc. LC		7.2	PULL #3 START 8:55 END 7:35 TIME 90 min DRL 90 min RAN - REC 7.0 LOSS 0.4 UNACL 0.4 DEP 15.9	
489.4	13		SANDSTONE F.g., m.h. m.g.e. CLS LENS 13.9-19.5 w/ang (45°) CONTACT @ 13.9		4	PULL #4 START 8:55 END 7:35 TIME 90 min DRL 90 min RAN - REC 7.0 LOSS 0.4 UNACL 0.4 DEP 18.4	
481.3	16		CLS s. m.h., dk. gr., shly w/loc SLT LENSES: Closely - m spaced HOR. shly PTgs w/loc (CONT)		5	PULL #4 (CONT)	
	20				6 (CONT)		

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-41/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 499.1		Hole No. 141/2	
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #4
	21		TR. OF G.R.C.L. COR/PLD		6	START 9:50
	22		SLS LEN 16.6-16.8		22.2	END 10:21
	23		R.B.R 19.9-19.96 IN			TIME 31min
	24		WISLX 22.2-22.8		7	DRL 31min
492.3						RAW -
	25					REC 8.9
	26					LOSS 0
	27					UNACC 0 T/DEP 24.0
	28		ICL		25.8	DEP 25.9
	29		R.B.R, S.-M.H.			PULL #5
	30				8	START 10:43
	31		O.S.L. C. BTWN 29.8-33.2			END 11:22
	32					TIME 39min
	33					DRL 39min
	34					RAW -
	35				29.5	REL 7.9
	36					LOSS 0.5
	37					UNACC 0.5
	38				9	
463.9	39		Bottom HOLE		33.2	T/DEP 33.2
	40					DEP 33.9
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1986 GP-626-603

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

MT-42/1



DRILLING LOG		Division		Installation		Hole No. <i>M-92/1</i>	
1. PROJECT <i>GALLIPOLIS LOCK I DAM</i>		<i>QED</i>		<i>QEH-CD</i>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <i>MONO M-92 STA 2+73.8</i>				10. SIZE AND TYPE OF BIT <i>4 X 5 1/2"</i>		11. DATUM FOR ELEVATION SHOWN (Type or Name) <i>M.S.L</i>	
3. DRILLING AGENCY <i>W.G. JAGUES</i>				12. MANUFACTURER'S DESIGNATION OF DRILL <i>B-57 MOBILE</i>			
4. HOLE NO. (As shown on drawing title and file number) <i>M-92/1</i>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <i>N/A</i>		DISTURBED <i>N/A</i>	
5. NAME OF DRILLER <i>WAYNE TICE</i>				14. TOTAL NUMBER CORE BOXES <i>9</i>		UNDISTURBED <i>N/A</i>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <i>N/A</i>			
7. THICKNESS OF OVERBURDEN <i>0 496.8</i>				16. DATE HOLE <i>2/8/89</i>		STARTED <i>2/8/89</i>	
8. DEPTH DRILLED INTO ROCK <i>39.8</i>				17. ELEVATION TOP OF HOLE <i>496.8</i>		COMPLETED <i>2/8/89</i>	
9. TOTAL DEPTH OF HOLE <i>462.0</i>				18. TOTAL CORE RECOVERY FOR BORING <i>34.8</i>		%	
				19. SIGNATURE OF INSPECTOR <i>L.M.D.</i>			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
<i>496.7</i>			SANDSTONE				
	1		SLY, f.m.g., m.h., m.g.r.			PULL #1	
	2		SLS			START 10:30	
			CLY, s.m.h., dkgr., PTS-SHY		Box 1	END 10:38	
			CLS LENS 2.0-2.3			TIME 8min	
<i>499.0</i>	3		SANDSTONE			DEL 8min	
	4		SLY, f.-m.g., m.h., m.		3.7	RAN -	
	5		GR bkn w/HA, o.jt.			REL 5.0	
			S.O-5.8			LOSS 0	
<i>491.0</i>	6		SLS		Box 2	UNACCLD	
	7		S.-m.h., m.-dkgr w/acc			DEPS.0 T/DEP 4.9	
	8		CLS LEN CLS 7.9-8.9;			PULL #2	
	9		CLS 8.9-11.9 m.h. 11.9		Box 3	START 10:45	
	10		w/VERT, o.jt. 11.9-12.2			END 11:07	
	11					TIME 22min	
<i>484.3</i>	12				10.9	DEL 22min	
	13		SANDSTONE			RAN -	
	14		SLY Pig, m.h., m.g.r.		Box 4	REC 9.6	
<i>482.2</i>	15		SLS/CLS		14.6	LOSS 0	
	16		Inter btd CLS-15.9-16.2			UNACCLD	
	17		(R. 16.6-17.2) 30°		Box 5	T/DEP 4.6	
	18		SMOOTH CONTACT @ 16.2			PULL #3	
	19		CLS-18.7-20.0			START 12:01	
	20		(R. 18.7-19.1)		18.2	END 12:35	
			(CONT)		Box 6	TIME 34min	
						DEL 34min	
						RAN -	
						REL 9.5	
						LOSS 0.6	
						(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT *GALLIPOLIS LOCK I DAM*

HOLE NO. *M-92/1*

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		496.8 OBH-CD		M-42/1 SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.3	20		SLs / CLS		Box 6	PULL #3
	21			22.0		
492.8	22		CLS m.-dk. gr., s.-m. s w/slk HA ptgs		Box 7	UNACCL 0.6
	23					
462.0	24		JCL  R. BR, S.-M. H, SLK  0.6 L.C. btwn 29.0 & 24.7.			DEP 29.9 T/DEP 29.7 PULL #4 START 12:50 END 13:34 TIME 49 min DEL 49 min RAN — REC 9.9 LOSS 0 UNACCL 0
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	462.0	35			Bottom Hole	
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						

ENG FORM  
JUN 67

1836-A

(SR 1110-1-1801)

GPO 1960 OF - 628-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-42/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT GALLIPOLIS LOCK & DAM		ORD		OEH-CD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station) MONO M-42 STA 3123 A				10. SIZE AND TYPE OF BIT 4V5.5"			
3. DRILLING AGENCY W. G. JABUES				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) M-42/2				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 mobile			
5. NAME OF DRILLER DAVID HARPER				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN NA		UNDISTURBED NA	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES 9			
7. THICKNESS OF OVERBURDEN 497.1				15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 33.5				16. DATE HOLE 2/8/89		STARTED 2/8/89	
9. TOTAL DEPTH OF HOLE 463.6				17. ELEVATION TOP OF HOLE 497.1			
				18. TOTAL CORE RECOVERY FOR BORING 33.5		1	
				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1	1		CLS SA, sh, s.-m.h., m.-dk.gr.			PULL #1	
	2		W/SS LAM BKN 0.0-1.1 W/10.8 L.C. S. CL SE @ 2%		Box 1	START 12:15 END 12:21 TIME 6min DEL 6min RAW - REC 3.8 LOSS 0.8 UNAC 0.8 T/DEP 4.6 DEP 5.0	
494.7	3		SANDSTONE sh, fig., m.h., m.gr		3.7		
493.0	4						
	5		CLS s.-m.h., m.-dk.gr. sh			PULL #2	
	6		w/m closely spaced		Box 2	START 12:35 END 12:50 UNAC 0.2 TIME 15min DEL 15min RAW - REC 9.3 LOSS 0.2 T/DEP 9.1 DEP 9.3	
	7		hor pTgs - To 9.1 0.2 L.C.		8.9		
	8		btwn 9.6 & 9.1 occ sh				
	9		LEN		Box 3	PULL #3	
	10						
	11				11.6		
489.6	12						
	13		CLS SA, m.h., m.-dk.gr		Box 4	START 1:01 END 1:42 TIME 41min DEL 41min RAW - REC 9.0 LOSS 0 UNAC 0	
	14		h/h PRAC 13.0-13.3 graining into		15.3		
481.5	15						
	16		CLS m.-dk.gr., s.-m.h., pTgs		Box 5	T/DEP 18.1	
	17		sh w/occ sh LAM				
	18		SA 17.9-17.7 m - closely spaced hor pTgs w/		18.9	DEP 18.9	
	19		occ tr. of gr. cl con		Box 6	PULL #4	
	20		1/4 rd started @ 17.7		(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK & DAMHOLE NO.  
M-42/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.1		Hole No. 11-92/2	
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.3	20		CLS (CONT)		Box 6	PULL #4 START 1:52 END 2:25 TIME 33 min DRL 33 min RAN - REC 9.8 LOSS 0 UNACC 0
	21					
463.6	22		ICK  br. gr - R. br., S.M.A.,  SLK TRANS 21.8-24.0  Becoming R. br. @ 24.0		22.6	DRL 33 min RAN - REC 9.8 LOSS 0 UNACC 0  Box 7
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
		34			BOTTOM HOLE	
	35				Box 8	DRL 27.7 DRL 27.7 PULL #5 START 2:40 END 3:10 TIME 30 min DRL 30 min RAN - REC 6.0 LOSS 0 UNACC 0
	36				Box 9	
	37				29.7	
	38					
	39					
	40					
	41					
	42					
	43					
	44				33.5	
						T/DRL+DRL 32.7

ENG FORM  
JAN 67

1836-A

(NR 1110-1-1801)

GPO 1960 OF - 628 - 643

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

11-92/2

DRILLING LOG		DIVISION ORD		INSTALLATION ORH-CD		Hole No. M-48/1 SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4x5.5			
2. LOCATION (Coordinates or Station) MONO M-48 STA 3+33 A				11. DATUM FOR ELEVATION SHOWN (FMS or MSL) M.S.L.			
3. DRILLING AGENCY W.G. JACQUES CO.				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) M43/1				13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 9		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 2-8-89 COMPLETED 2-8-89	
7. THICKNESS OF OVERBURDEN 0 496.7				17. ELEVATION TOP OF HOLE 496.7			
8. DEPTH DRILLED INTO ROCK 33.1				18. TOTAL CORE RECOVERY FOR BORING 33.1			
9. TOTAL DEPTH OF HOLE 463.6				19. SIGNATURE OF INSPECTOR J. J. J.			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.7	1		CLS Shy. S.-m.h., m.-dk.gr I.C.L. 2.1-3.2 (soft).		Box 1	PULL #1 START 1405 END 1415 TIME 10 MIN. DRL 10 MIN. RAN - REC 5.0 LOSS 0 UNACC. 0	
493.5	3		SANDSTONE Sly, f.g., m.h., m.gr. thin dk. gr. c. 13m.-5.0-5.5 grading 5.0-6.0	3.7	Box 2	PULL #2 START - END 1630 TIME - DRL - RAN - REC 10.2 LOSS - UNACC. -	
490.7	6		CLS S.-m.h., m.-dk.gr., dk. r. br. 12.2-12.6 Good Contact	2.9	Box 3	DEP 5.0 T/DEP 5.0	
484.1	12		SANDSTONE v. sly, f.g., m.h., m.gr. Conc. 12.3-13.9-14.4	1.2	Box 4	DEP 15.2	
482.2	14		CLS Occ. sly, m.-dk. gr S.-m.h., sly, s.g. 17.8-18.3 m. spaced ptgs throughout: r.b., ang. sly. ptg 17.5-17.8	18.5	Box 5	T/DEP 17.2	
	20		(CONT.)	(CONT.)	Box 6	PULL #3 (CONT.)	

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PROJECT GALLIPOLIS Lock & Dam HOLE NO. M-48/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 496.7		Hole No. M-43/1		
PROJECT GALLIPOLIS LOCK & DAM		INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.4	21		CLS (CONT.)		Box 6	PULL #3 START 1645 END 1730 TIME 45 MIN DRL 45 MIN RAN — REC 9.4 LOSS 0.3 UNACC 0.3
474.2	22		CLS / ICL gr., s.-m.h., slk.		22.3	T/DEP 24.0
	23		ICL S.-m.h., r. br. slk.		Box 7	DEP 24.9
	24		0.3 L.C. btwn 22.5+24.9		26.0	PULL #4 START 1740 END 1815 TIME 35 DRL 35 RAN — REC 4.3 LOSS 0 UNACC 0
	25		0.2 L.C. btwn 24.9+29.4		Box 8	DEP 29.4
	26				29.5	T/DEP 29.8
	27				Box 9	PULL #5 START 1830 END 1900 TIME 30 MIN DRL 30 MIN RAN — REC 4.7 LOSS — UNACC —
463.6	33		BOTTOM HOLE		33.1	DEP 34.1
	34					T/DEP 34.5
	35					

ENG FORM  
AN 57 1836-A

(REV 1110-1-1801)

GPO 1980 OF-628-643

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

M-43/1

DRILLING LOG		Division ORD		INSTALLATION ORH-CD		Hole No. <u>M-43/2</u> SHEET 1 OF 1 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK DAM</u>				10. SIZE AND TYPE OF BIT <u>2" 15.5"</u>			
2. LOCATION (Coordinates or Station) <u>MOND M-43 STA 3465A</u>				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. C. JABUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>M-43/2</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <u>N/A</u>		UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>STEVE ERY</u>				14. TOTAL NUMBER CORE BOXES <u>9</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>		16. DATE HOLE STARTED <u>2/8/89</u> COMPLETED <u>2/8/89</u>	
7. THICKNESS OF OVERBURDEN <u>497.6</u>				17. ELEVATION TOP OF HOLE <u>497.6</u>			
8. DEPTH DRILLED INTO ROCK <u>33.7</u>				18. TOTAL CORE RECOVERY FOR BORING <u>53.7</u>			
9. TOTAL DEPTH OF HOLE <u>463.9</u>				19. SIGNATURE OF INSPECTOR <u>LMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.6	1		CLS			PULL #1	
	2		shy, s.-m.h., m.-dk. gr.		Box 1	START 4:37	
						END 4:55	
						TIME 18min	
499.9						DEL 18min	
	3		SANDSTONE		3.6	RAW -	
	4		shy, p.g., m.h., m.g.r.			REC 4.7	
492.9			IRR UERT, hld. frac 2.7-3.2			LOSS 0	
			o. IRRA JT 3.3-4.7			UNAC 0 T/DEP 9.7	
	5		CLS/SLS		Box 2	PULL #2	
	6		INTERbed, m.-dk. gr			START 5:00	
	7		w/ occ. hvy, dk. gr. cl			END 5:15	
	8		SE. 0.5 L.C. 4.7-9.0		7.1	TIME 15min	
	9		ICL LEN 9.0-9.4 mostly			DEL 15min	
	10		CLS shy w/ s. cl			RAW -	
	11		LENS BELOW 9.4		Box 3	REC 4.2	
484.4						LOSS 0.5	
	12					UNAC 0.5 DEP 9.4	
	13					T/DEP 8.6	
	14		SANDSTONE		Box 4	PULL #3	
482.8			shy, p.g., m.h., m.g.r			START 5:23	
	15		brn 13.2-13.3 gradings		12.8	END 5:36	
	16		14.0-14.8 into			TIME 7min	
	17					DEL 7min	
	18				Box 5	RAW -	
	19					REC 5.0	
	20					LOSS 0	
					14.7	UNAC 0 DEP 14.5	
						T/DEP 14.4	
	15		CLS/SLS		Box 5	PULL #4	
	16		INTERbed, m.-dk. gr,			START 5:45	
	17		s.-m.h., m.-closely spaced			END 6:00	
	18		PTGS OCC S&K OCC. TR.			TIME 15min	
	19		GR. CL. COOL/BLD.			DEL 15min	
	20				18.2	RAW -	
						REC 3.8	
					Box 6	LOSS 1.0	
						UNAC 1.0	
					(CONT)	T/DEP 19.2	
						DEP 19.2	
						PULL #5	
						(CONT)	

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PROJECT GALLIPOLIS LOCK DAM HOLE NO. M-43/2







DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>L-1/1</u>	
		<u>ORD</u>		<u>DRH-CD</u>		SHEET OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>				10. SIZE AND TYPE OF BIT <u>4 X 5 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MDND L-1 STA 12+14.23B</u>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <u>M.S.L</u>			
3. DRILLING AGENCY <u>W. G. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B. - 57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-1/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
				DISTURBED <u>N/A</u>		UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>WAYNE TICE</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>496.9</u>				16. DATE HOLE		16. DATE HOLE	
8. DEPTH DRILLED INTO ROCK <u>34.7</u>				STARTED <u>12/22/88</u>		COMPLETED <u>12/22/88</u>	
9. TOTAL DEPTH OF HOLE <u>462.2</u>				17. ELEVATION TOP OF HOLE <u>496.9</u>			
				18. TOTAL CORE RECOVERY FOR BORING <u>57.9</u>			
				19. SIGNATURE OF INSPECTOR <u>JMD</u>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SAND STONE			PULL #1 START 7:58 END 8:12 TIME 19min DEL 19min RAN 4.8 REC 4.8
	2		LT GR - GR, H to M.H		1	
	3		M - C.G., OCC. MIC.			
	4		FE SURFACE STAINED		3.8	LOSS 0 UNAC 0 DEP 4.8 T/DEP 8.7
	5		496.9 - 496.8, SH, STB			
	6		487.4 - 487.3, CL PLN		2	PULL #2 START 8:23 END 8:30 TIME 17min DEL 17min RAN 3.6 UNAC 0
	7		486.4, SH, FRAG 486.2 -		7.4	REC 3.6 LOSS 0 T/DEP + DEP 8.9
	8		485.8			
	9				3	PULL #3 START 8:41 END 8:49 TIME 8min DEL 8min RAN 4.9 REC 5.0 LOSS 0.1 UNAC 0.1
	10					
	11				14.1	
	12					
	13				4	DEP 13.3 T/DEP 34
483.8	14		SLT			
	15		GR - GR, GR, S - M.H		14.5	PULL #4 START 8:55 END 9:10 TIME 15min DEL 15min RAN 6.2 REC 6.2 LOSS 0 UNAC 0
	16		SR, BKN PLN, SS. BDN		5	
	17		GR. F.G., M.H, w/loc			
	18		Pyrite nodules 477.1		18.1	
	19		476.9		6	T/DEP + DEP 19.6 PULL #5
	20		(CONT)		CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-1/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.7		Hole No. L-1/1	
PROJECT GALLIPOLIS LOCKE DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	20					
	21		SANDSTONE		6	PULL #5
	22		GR - H.G.R., M.H., F-mge		21.7	START 9:29 END 9:41 TIME 17min DRL 17min
	23		CC. M.C.,		7	RAN 10.0 REC 10.0 LOSS 0 UNACC 0
	24		- Pyrite bdw p.l.n. #66.5			
	25		#66.1, #65.9		25.4	
	26		Cal cemented normal			
	27		#65.0 - #64.8		8	
	28		Cl Rippln #75.0			
	29				28.9	
	30					DEP 29.7 T/D 29.4
	31				9	PULL #6 START 9:56 END 10:08 TIME 12min DRL 12min
	32				32.5	RAN 5.0 REC 5.1 LOSS 0 UNACC 0
	33				10	
462.2	34		Bottom Hole		39.7	DEP 39.7 T/D 39.8
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 528 - 503

PROJECT  
GALLIPOLIS LOCKE DAM

HOLE NO.  
L-1/1

Hole No. L-1/2

DRILLING LOG		DIVISION	INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>	<u>ORH-CD</u>			
2. LOCATION (Coordinate or Station) <u>MDWD L-1 STA 1174.60 B</u>			10. SIZE AND TYPE OF BIT <u>4X5 1/2"</u>			
3. DRILLING AGENCY <u>W. G. JAGUES</u>			11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <u>M.S.L</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-1/2</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>			
5. NAME OF DRILLER <u>WAYNE TICE</u>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES <u>0</u>			
7. THICKNESS OF OVERBURDEN <u>0 496.8</u>			15. ELEVATION GROUND WATER <u>N/A</u>			
8. DEPTH DRILLED INTO ROCK <u>34.2</u>			16. DATE HOLE STARTED <u>12/22/88</u> COMPLETED <u>12/22/88</u>			
9. TOTAL DEPTH OF HOLE <u>462.6</u>			17. ELEVATION TOP OF HOLE <u>496.8</u>			
			18. TOTAL CORE RECOVERY FOR BORING <u>34.2</u>			
			19. SIGNATURE OF INSPECTOR <u>JMD</u>			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SAND STONE			PULL #1 START 10:38 END 10:42 TIME 4min DRL 4min RAN 4.8 REC 4.8 LOSS 0 UNAC 0 TIDEP 9.7 DEP 50
	2		LTGR TO GR M.-H.H.		1	
	3		M.-C.G.R., TH, SA 0.1		3.8	
	4		SP 492.4 TO 489.0			
	5		HIGH ANG FRAC 488.6-			
	6		487.8, GR TO DEGR M.H.		Z	PULL #2 START 10:47 END 11:02 TIME 15min LOSS 0 DRL 15min UNAC 0 RAN 3.8 REC 3.8 TIDEP + DEP 8.6
	7		M.G.R. BELOW 487.2		7.3	
	8		SH, STRINGERS 485.8-			
	9		485.7		3	PULL #3 START 11:08 END 11:14 TIME 16min DRL 16min RAN 5.0 REC 5.0 LOSS 0 UNAC 0 TIDEP + DEP 13.6
	10				10.6	
	11					
	12				4	
489.0	13		SLT			
	14		GR.-SN.GR S.-M.H.		19.0	PULL #4 START 11:21 END 11:35 TIME 19min DRL 19min RAN 5.8 REC 5.8 LOSS 0 UNAC 0
	15		SR, SS GR, FGL M.H.		5	
	16		483.6-486.4 CL 477.9			
	17		SS, BKN 483.8-483.9		17.6	
	18		DEGR. F. U.FGR. M.H.		6	
	19		480.8-480.7			
477.6	20		SANDSTONE			DEP 19.3
			CONT		CONT	PULL #5 TIDEP 19.4

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-1/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.8	Hole No. L-1/2		
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION DEH-CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20				6	PULL#5
	21		SANDSTONE		21.2	START 12:25
	22		RT. G. - GR, M.H., F. M. G.			END 12:45
	23		MIC, SM. PYRITE NOD.		7	TIME 20 MIN
	24		+ FLAKS 475.2 - 473.2			DRL 20 MIN
	25		CAL CEMENTED LENS		23.8	RAW 9.8
	26		465.0 - 468.9, 470.3 - 470.8		8	REL 9.8
	27		NOD. 465.1 - 465.0			LOSS 0
	28		VE. F. GR, SLT 475.3 - 475.0		28.5	UNACCD
	29					DEP 29.3 TIDEP 29.2
	30				9	PULL#6
	31					START 12:55
	32				32.0	END 1:08
	33					TIME 13 MIN
	34				10	DRL 13 MIN
	35					RAW 5.0
	36					REL 5.0
	37					LOSS 0
462.6	38		DETHI HOLE		34.2	UNACCD
	39					DEP 34.3 TIDEP 34.2
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1960 OF - 628 - 603

PROJECT GALLIPOLIS LOCK DAM

HOLE NO. L-1/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>L-2/1</u>	
		<u>ORD</u>		<u>ORH-CD</u>		SHEET <u>1</u> OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>				10. SIZE AND TYPE OF BIT <u>4 X 5 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MONO L-2 STA 11+82.193</u>				11. DAY OF ELEVATION SHOWN (TIME or DATE) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. G. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B.-57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-2/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>WAYNE TICE</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE		STARTED <u>12/27/88</u> COMPLETED <u>12/27/88</u>	
7. THICKNESS OF OVERBURDEN <u>Ø 496.6</u>				17. ELEVATION TOP OF HOLE <u>496.6</u>		18. TOTAL CORE RECOVERY FOR BORING <u>34.3</u> %	
8. DEPTH DRILLED INTO ROCK <u>34.3</u>				19. SIGNATURE OF INSPECTOR <u>JMD</u>			
9. TOTAL DEPTH OF HOLE <u>462.3</u>							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE			PULL #1
	2		LT. GR TO GR M.-H.H.		1	START 12:30 END 12:41 TIME 11 min DRL 11 min
	3		F.-LGR. OCC. MIC.		3.1	RAN 4.9 REC 5.0 LOSS Ø
	4		MECH BKN 496.6-496.4			UNACC Ø
	5		CHL. CEM. 495.4-499.2,		2	DED + T / DED 4.9
	6		483.8-483.3			PULL #2
	7		NUM SH Bd PLN OL		7.2	START 13:01 END 13:20 TIME 19 min DRL 19 min
	8		FRAG. 490.2-489.9, 486.5-		3	RAN 9.7 REC 9.5 LOSS Ø
	9		486.9, 486.1-486.0, 485.5-			UNACC Ø
	10		485.4 High. ANG. FRAC. 484.5		11.0	
	11		484.3, C-MGR 493.7-485.5		4	
	12		F-MGR ELSEWHERE			
483.3	13					
	14		SILT		14.5	DED 14.6 T / DED 14.9
	15		GN.-GR, S-MH, SH			PULL #3
	16		CL SCAM 483.3-483.2		5	START 13:40 END 14:01 TIME 21 min DRL 21 min
477.6	17					RAN 9.9
	18		SANDSTONE		18.1	REC 9.8
	19		LT GR - GC, M.H.-H.H, M.Fgr.		6	LOSS Ø
	20		OCC. MIC.,			UNACC Ø
			OCC THIN SH Bd 477.4-477.0		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-2/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 1-2/1		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
Gallipolis Lock & Dam		DPH-CD				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #3
	21		Occ pyrite, nod 477.0		21.7	
	22		476.2, CAL CCM 476.3			
	23		476.0, 470.5 - 469.8,		7	
	24		CL/SH Bt PIN THIN			TDEPT + DEP 24.5
	25		w/ pyr FLAKES 479.2-477.0		25.1	PULL #4
	26		MECH SPIN 472.3 472.0		8	START 19.15
	27		CAL. NOD, S. OCC 465.9 -			END 19.29
	28		464.9			TIME 19min
	29		TH. SH BT 463.4		28.8	DRL 19min
	30					PAN 9.9
	31				9	REC 10.0
	32					LOSS 0
	33				10	UNHCL
462.3	34		BOTTOM HOLE		39.3	DEP 39.4 TDEP 39.3
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (SR 1110-1-1801)

GPO 1980 OF - 628 - 503

PROJECT

Gallipolis Lock & Dam 1-2/1

HOLE NO.

DRILLING LOG		DIVISION	INSTALLATION	Hole No.	SHEET
PROJECT		ORD	ORH-CD	L-2/2	1
LOCATION (Coordinate or Station)		GALLIPOLIS LOCK + DAM			
MOND L-2 STA 11+46.89B		M.S.L			
DRILLING AGENCY		W. G. JACQUES			
HOLE NO. (As shown on drawing title and file number)		L-2/2			
NAME OF DRILLER		WAYNE TICE			
DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			
THICKNESS OF OVERBURDEN		0 496.6			
DEPTH DRILLED INTO ROCK		33.8			
TOTAL DEPTH OF HOLE		463.1			
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED		UNDISTURBED	
		N/A		N/A	
TOTAL NUMBER CORE BOXES		10			
ELEVATION GROUND WATER		N/A			
DATE HOLE		STARTED		COMPLETED	
		12/22/88		12/23/88	
ELEVATION TOP OF HOLE		496.6			
TOTAL CORE RECOVERY FOR BORING		33.8			
SIGNATURE OF INSPECTOR		JMN			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.6			SANDSTONE			
	1		LT-GR. M.-N. F to mgr			PULL #1
	2		occ mic, TH, SLT Bd		1	START 1:35
	3		PLN 496.5, 495.3, 495.2			END 1:43
	4		494.9 HNG 20°, C. GR			TIME 8 min
	5		493.7-488.4			DRL 8 min
	6		SH Bd w/0.2 spacing		3.5	RAN 4.9
	7		491.9-488.6, UNM. MIC.			REL 4.9
	8		bd. PLN. (BANDS), 488.4			LOSS 0
	9		-488.3, 487.7-487.2		2	UNAC 0
	10		occ S. FALT (THRUST)			DEP 5.0 TIDE 4.9
	11		d-p AND FOLD (45°)			START 1:57 PULL #2
	12		< 0.1 displacement			END 2:03
	13		488.2-487.2		6.7	TIME 8 min
	14		SLT LENS w/ LT COL			DRL 8 min
	15		ROCK FRAGS 487.0-486.7		3	RAN 2.9
	16					REL 2.9
	17					LOSS 0
	18					UNAC 0
	19					START 2:10
	20				10.2	END 2:30
	21					TIME 20 min
	22					DRL 20 min
	23				4	RAN 4.7
	24					REL 4.7
	25					DEP 14.5
483.2			SLT			PULL #4
	19		GR.-GNGR., S-M.H.			START 2:47
	20		SA, SLT BKN. 483.2-482.8		5	END 3:05
	21		w/SS LENS @ 482.9-482.8			TIME 18 min
	22		SS GR, M.H., F-MGR.			DRL 18 min
	23		482.0-481.5, 478.9-478.4			RAN 7.2
	24		SLT BKN 478.2-477.9			REL 7.3
	25				17.3	LOSS 0
	26					UNAC 0
477.7			SANDSTONE			
	20		CONT			DEP 19.9
			CONT			TIDE 19.7

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. L-2/2



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.9		Hole No. L-7/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21				20.8	
	22		LT. GR - GR, M.H. F. - MGR.		7	START 7:49
	23		Occ. mic. X Bd, pyr nod			END 8:09
	24		AND FRAKES 476.2-473.6			TIME 20min
	25		SH SCAM 475.5-475.4		24.5	DEL 20min
	26		CAL CCM LENS 473.3-			RAN 10.0
	27		473.4, NUM.S. SH. FRAG.		8	REL 10.0
	28		+ Bd PLN 470.2-470.0			LOSS 0
	29		NUM mic Ld, PLN Choc		28.3	UNACC 0
	30		Bands) 466.0-465.5		9	PULL #6
	31					START 8:23
	32				31.8	END 8:28
	33				10	TIME 5min
463.1	34		BOTTOM HOLE		33.8	DEL 5min
	35					RAN 4.0
	36					REL 4.0
	37					LOSS 0
	38					UNACC 0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(EN 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-7/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
		ORD		ORH-CD		4-3/1	
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or BM)	
GALLIPOLIS Lock + DAM		MONG L-3 STA 11+54.98 B		4x5 1/2"		M.S.L	
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	
W. G. JAGUES		L-3/1		B. - 57 MOBILE		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
D. NORRIS		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		10		N/A	
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		17. ELEVATION TOP OF HOLE	
0 496.8		33.5		STARTED 12/27/88 COMPLETED 12/27/88		496.8	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR		33.5	
463.3				JMD			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
496.8			SANDSTONE			PULL #1
	1		LT. GR. - GR, M.H. - H, M. - Cgr., OCC. MIC. BLEN PLNS			START 15.01
	2		W/O. 0.2 496.8 - 495.8		1	END 15.12
	3		M. GR. MIC 496.8 - 494.1			TIME 11 min
	4		488.5 - 487.7 / C. - MGR			DRL 11 min
	5		494.1 - 488.5, TH. SH. BD		3.7	RAN 5.0
	6		491.4 - 491.3 SH. FRAG.			REC 4.8
	7		489.6 - 489.1			LOSS 0
	8					UNACQ
	9				2	DEPT + T / DEPT 5.0
	10		ICL			PULL #2
	11		P. BL. S, mottled w/ GR - GN			START 16.00
	12		CL L. PL 20° 30' 487.9 - 487.3			END 16.22
487.7	13		SLT 90° @ CONTACT w/ SLT		7.2	TIME 22 min
	14		POSS FAULT			DRL 22 min
	15					RAN 6.9
	16				3	REC 6.9
	17					LOSS 0
	18					UNACQ
	19				14.0	DEPT + T / DEPT 11.7
485.9	20		SLT			PULL #3
	21		GR - GN GR., S - M.H., SA			START 16.45
	22		BLN @ CONTACT w/ ICL		4	END 17.20
	23		SEL 485.4 - 485.3, MICH			TIME 35 min
	24		CHIPPED 485.1 - 484.7			DRL 35 min
	25		BLN 480.2 - 480.1, W/ TH CL.		14.5	RAN 10.1
	26		CONT @ 480.1			REC 10.1
	27				5	LOSS 0
	28					UNACQ
480.1	29				18.3	
	30		SANDSTONE		6	
	31		LT. GR. - GR, M.H. F - M. GR		(CONT)	(CONT)
	32		(CONT)			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS Lock + DAM HOLE NO. L-3/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM			496.8	L-3/1		
			ORH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			
	21		OCC. MIC., SLT #80.1-97.5			
	22		SLT SEAM BKN 479.5-		21.8	DEPT+T/DEP 21.8
	23		479.3, OCC TH SH LN			PULL #9
	24		477.3-476.8, OCC S. PYR			START 18:10
	25		NOD. 475.0-474.0			END 18:55
	26		CAL. CEM. 465.0-464.3			TIME 45min
	27					DEL 45min
	28					PAN 9.8
	29					REC 9.3
	30					LOSS 2
	31					UNACCLD
	32					
	33		Bottom Hole			
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

BNG FORM 1836-A

(ER 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-3/1

DRILLING LOG		DIVISION	INSTALLATION		Hole No. <u>L-3/2</u>	
		<u>ORD</u>	<u>ORN-CD</u>		SHEET <u>1</u> OF <u>2</u> SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>			10. SIZE AND TYPE OF BIT <u>4 1/2 IN</u>			
2. LOCATION (Coordinate or Station) <u>MOND L-3 STA 11+19.18 B</u>			11. DAY OF ELEVATION SHOWN (TBM or BBL) <u>M.S.L</u>			
3. DRILLING AGENCY <u>W. G. JACOBS</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-3/2</u>			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>			
5. NAME OF DRILLER <u>WAYNE TICE</u>			14. TOTAL NUMBER CORE BOXES <u>10</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>497.0</u>			16. DATE HOLE STARTED <u>12/23/88</u> COMPLETED <u>12/23/88</u>			
8. DEPTH DRILLED INTO ROCK <u>33.9</u>			17. ELEVATION TOP OF HOLE <u>497.0</u>			
9. TOTAL DEPTH OF HOLE <u>463.1</u>			18. TOTAL CORE RECOVERY FOR BORING <u>33.9</u> %			
			19. SIGNATURE OF INSPECTOR <u>JMU</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			SANDSTONE			
	1		LTGR. -GR, M-HN, F-LGR.			PULL #1
	2		OCC mic, NUM SM. SL BD			START 9:00
	3		+ FRAG 496.0 - 495.3,			END 9:13
	4		492.7 - 492.5, 491.6 - 491.3			TIME 13 min
	5		489.5 - 489.3, SH SCAM W/			DPL 13 min
	6		CL coating, OCC at under			RAN 4.9
	7		492.0 - 492.1			REC 4.9
	8		CAL. CEM. 489.9 - 489.7			LOSS 0
	9					UNACC 0
	10					DEP 5.0 T/DEP 4.9
	11					PULL #2
	12					START 9:26
	13					END 9:57
	14					TIME 31 min
	15					DPL 31 min
	16					RAN 9.6
	17					REC 9.9
	18					LOSS 0
	19					UNACC 0
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
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	31					
	32					
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DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.0		Hole No. L-3/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #3
	21		LTGR-GR, M.H, F-MGR.		6	UNACCD
	22		MIC.			
	23		SLT GR, M.H. SQ 477.5-		23.6	
	24		476.9, PYR NOT SIGNAL		7	DEP 29.8
	25		SCATTERED ALSO FLAKES 476.1		25.3	DEP 24.9
	26		-472.9, SLT VC.F. GR 475.5		8	PULL #4
	27		-474.9, CAL CEM 468.4.			START 10:47
	28		468.3.			END 11:05
	29				28.9	TIME 18 MIN
	30					DPL 18 MIN
	31					RAN 9.0
	32					REC 9.0
	33				9	LOSS 0
	34					UNACCD
	35				32.6	
	36				10	
463.1	37		BOTTOM HOLE		33.9	DEPT T/DEP 33.9
	38					
	39					
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	42					
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	44					

ENG FORM  
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1836-A

(NR 1110-1-1801)

GPO 1980 OF - 528 - 503

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-3/2

DRILLING LOG		Division		INSTALLATION		Hole No. <u>L-9/1</u>	
		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK + DAM</u>				10. SIZE AND TYPE OF BIT <u>4x5 1/2"</u>			
2. LOCATION (Coordinate or Station) <u>MDND L-9 STA 11+26.76 B</u>				11. DATUM FOR ELEVATION SHOWN (FEET or METER) <u>M. S. L</u>			
3. DRILLING AGENCY <u>W. G. JACOBS</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-9/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		UNDISTURBED	
				<u>N/A</u>		<u>N/A</u>	
5. NAME OF DRILLER <u>WAYNE TICE</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>B 496.9</u>				16. DATE HOLE		STARTED <u>12/28/88</u> COMPLETED <u>12/28/88</u>	
8. DEPTH DRILLED INTO ROCK <u>34.8</u>				17. ELEVATION TOP OF HOLE <u>496.9</u>			
9. TOTAL DEPTH OF HOLE <u>462.1</u>				18. TOTAL CORE RECOVERY FOR BORING <u>34.8</u>			
				19. SIGNATURE OF INSPECTOR <u>LH/D</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SANDSTONE LT GR. - GR., M. H. - H, M. - GR. Occ. mic., BLN 496.6 - 496.5		1	PULL #1 START 8:00 END 8:10 TIME 10min DRL 10min RAN 2.9 REC 2.9 LOSS 0 UNACC 0	
	2		5M CL FAN 493.7, CGR. 494.0 - 497.5, MGR. ABOVE + BELOW, CL SCAM, 487.9 - 487.8, 487.7 - 487.6		3.4	T/DEP DEP 2.9 PULL #2 START 8:29 END 8:40 TIME 11min DRL 11min	
	3		FCSTAIN, FGR SS. 487.8- 487.7, Thin CL COATED PLN 487.5		2	RAN 5.0 REC 5.0 LOSS 0 UNACC 0	
	4				7.2	DEPT+T/DEP 7.4	
	5				3	PULL #3 START 8:50 END 9:00 TIME 10min DRL 10min RAN 6.5 REC 7.5 LOSS 0 UNACC 0	
486.4	10				10.4		
485.7	11		CL LT GR. S. SLT SLT LOW ANGLE 486.2, High ANGLE 486.3 - 485.8		4		
	12				14.3	DEPT+T/DEP 14.9	
	13		SLT GR - SN GR. S - M.H. granulation w/ sh @ Top to SA Bottom SA Below 478.1		5	PULL #4 START 15:35 END 16:45 TIME 10min DRL 10min RAN 9.7 REC 9.7 LOSS 0	
	14		SS. GR, M.H. f. MGR, SL 480.5 - 479.8, SS GR. M.H. M. GR 478.0 - 477.8		16.6		
	15				20.0	(CONT)	
	16						
	17						
	18						
	19						
	20						

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PROJECT GALLIPOLIS LOCK + DAM HOLE NO. L-9/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS LOCK + DAM		ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SILT			
	21					Pull #4
475.3					7	UNACC
	22		SANDSTONE			
	23		LTGR - GR, M.H, F-MGR			
	24		mic, GRANULATIONAL CONTACT			
	25		W/UP SILT, SILT F. GR		29.6	T/DEP 29.4 DEP 29.9
	26		ABOVE 473.8, CL COATED			
	27		RD PLN, OCC PYR NOT SM.		8	Pull #5
	28		479.2 - 472.8, CAL. CEM.			START 16.50 END 17.22 TIME 29min
	29		472.8 - 472.7, Low Thin		29.4	DPL 29min
	30		SH. Bd. 468.0 - 467.9		9	RAN 9.7 REL 10.2 LOSS 0 UNACC 0
	31		bands of mic bddins.			
	32		463.1		34.6	
	33				10	
	34					
462.1			BOTTOM HOLE		39.8	DEP 39.6 T/DEP 39.8
	35					
	36					
	37					
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	44					

ENG FORM  
JUN 67 1836-A

(SR 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT

GALLIPOLIS LOCK + DAM

HOLE NO.

L-9/1

DRILLING LOG		DIVISION	INSTALLATION		Hole No. <u>L-9/2</u>	
1. PROJECT <b>GALLIPOLIS Lock + DAM</b>			<b>ORD</b>		<b>ORH-CD</b>	
2. LOCATION (Coordinates or Station) <b>MDNG L-9 STA 10+87.718</b>			10. SIZE AND TYPE OF BIT <b>M.S.L</b>		SHEET <b>1</b> OF <b>2</b> SHEETS	
3. DRILLING AGENCY <b>W. G. JACOBS</b>			11. DATUM FOR ELEVATION GROUND (TBM or B.M.) <b>M.S.L</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>L-9/2</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
5. NAME OF DRILLER <b>WAYNE TICE</b>			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES <b>10</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>@ 497.0</b>			16. DATE HOLE <b>STARTED 12/23/88</b>		COMPLETED <b>12/23/88</b>	
8. DEPTH DRILLED INTO ROCK <b>39.1</b>			17. ELEVATION TOP OF HOLE <b>497.0</b>		18. TOTAL CORE RECOVERY FOR BORING <b>39.1</b>	
9. TOTAL DEPTH OF HOLE <b>462.9</b>			19. SIGNATURE OF INSPECTOR <b>JMM</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE LT.GR. - GR, M.H. - H. M. - C.GR, OCC. MIC., FC SURFACE STAIN 497.0 496.9 ANG JT 45° 496.7 - 496.5, NUM THIN SA/CL bd 492.1 - 491.7			PULL #1 START 11:35 END 11:53 TIME 18min DRL 18min RAN 5.0 REC 5.0 LOSS 0 UNACCL 0
	2				3.5	
	3					
	4					
	5					
	6				2	PULL #2 START 12:34 END 12:52 TIME 18min DRL 18min RAN 9.6 REC 9.1 LOSS 0 UNACCL 0
	7				7.0	
	8					
488.2	9		SLT GR - SNGR, 5-MH, granitic w/CL Top To SA Bottom OCC SEL ANG PN 95° W/SL SLT B/W 487.9 - 487.2, 486.6 - 486.2 10° - 10° 486.2, OCC MOTED W/CL BL CL 487.5 - 486.4 ANG PN, SLT B/W 30° 485.1 - 485.0, ANG PN 30° 484.7 - 484.6, SA below 484.3		3	
	10					
	11				10.8	
	12					
	13				4	
	14				14.2	TIDEP 19.0 DEP 19.6
481.6	15					
	16		SANDSTONE LT.GR., M.H. F.GR		5	PULL #3 START 1:03 END 1:30 TIME 22min DRL 22min RAN 9.4 REC 10.0 LOSS 0 UNACCL 0
	17					
479.2	18		SLT GR., M.H. SS (SS. GR. M.H. M.GR 479.0 - 478.8)		18.0	
	19				6	
477.2	20		SANDSTONE		(CONT)	(CONT)

ENG FORM 1836  
MAR 71

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PROJECT

GALLIPOLIS Lock + DAM

HOLE NO.  
L-9/2



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 4970		Hole No. L-4/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION DEH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		LT. GR. - GR, M.H. F. MGR		21.7	
	22		Occ mic, SLT, GR, M.H. SA.			
	23		475.6 - 474.4, 473.8 - 473.2		7	
	24		High ANG FRAC 474.3 - 474.0			DEP + TIDE 29.0
	25		New clay 1st bed + FRACS		25.2	PULL #4
	26		471.5 - 470.7, 469.6 - 469.4		8	START 2:10
	27		467.7, 467.9 + 466.6, 463.8			END 2:21
	28		CAL. nod. 470.8 - 470.7			TIME 11 min
	29		466.6 - 466.5		28.7	DRL 11 min
	30					RAN 10.0
	31				9	REC 10.0
	32				32.3	LOSS 8
	33				10	UNACQ
462.9	34		BOTTOMS HOLE		34.1	DEP 34.0
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-4/2

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
PROJECT		ORD		ORH-CD		L-511	
LOCATION (Coordinates or Station)		6ALLIPOLIS Lock & DAM		10. SIZE AND TYPE OF BIT		415.5"	
MANNO L-5 / STA 10+80 B				11. DATUM FOR ELEVATION SHOWN (FSM or MSL)		M.S.L.	
DRILLING AGENCY		W. G. JARVIS		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
HOLE NO. (As shown on drawing title and file number)		L-511		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
				14. TOTAL NUMBER CORE BOXES		11	
NAME OF DRILLER		DAVID HARPER / STEVE FRY		15. ELEVATION GROUND WATER		N/A	
DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		16. DATE HOLE		STARTED COMPLETED	
		DES. FROM VERT.		11/10/89		11/10/89	
THICKNESS OF OVERBURDEN		0 496.5		17. ELEVATION TOP OF HOLE		496.5	
DEPTH DRILLED INTO ROCK		38.9		18. TOTAL CORE RECOVERY FOR BORING		38.9	
TOTAL DEPTH OF HOLE		457.6		19. SIGNATURE OF INSPECTOR		LMD	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.5	1		SANDSTONE		Box 1	PULL #1 START 1:20 END 1:35 TIME 15min DRL 15min RAN 2.9 REL 2.8 LOSS 0 UNACC 0
	2		M-C.G., m.h., m.g.r.			
	3		0.1 LC BTWN 0.0;			
	4		2.9 LEA L.T.G.R. 3.4-4.4		3.4	DEP 2.9 PULL #2
	5				Box 2	START 1:45 END 2:00 TIME 15min DRL 15min RAN 7.4 REL 7.4 LOSS 0 UNACC 0
489.9	6					
	7		SANDSTONE		7.1	DEP 7.4
	8		SLY, Fig., m.h.,			
	9		m.g.r. bkn. 7.3-7.4		Box 3	PULL #3 START 2:10 END 2:22 TIME 12min DRL 12min RAN 12.0 REL 4.7 LOSS 0 UNACC 0
	10		OVERCORED 7.4-8.0		10.6	
	11					
	12				Box 4	DEP 12.1
	13					PULL #4
	14				13.8	START 2:35 END 2:53 TIME 18min
	15				Box 5	DRL 18min RAN 20.4 REL 8.3 LOSS 0 UNACC 0
479.4	16					
	17		SLS		17.3	
	18		SA. m.h., m.-dk.gr		Box 6	
	19		OCC. SS. LENS. 0.2. CLS			
	20		(CONT)		(CONT)	(CONT)

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(TRANSLUCENT)

PROJECT 6ALLIPOLIS Lock & DAM HOLE NO. L-511

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			496.5		L-5/1	
INSTALLATION			ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLS (CONT'D)		20.4	DEP 22.0
	21		LENS @ 20.6-20.8			PULL #5
	22		GRADING MORE SA		Box 7	START 3:05
	23		w/depth			END 3:25
						TIME 20 min
472.5						DRL 20 min
	24				24.0	RAN 30.5
	25		SANDSTONE			REC 10.1
	26		Sly, Fig., m.h., w/		Box 8	LOSS 0
	27		dk. gr. sly LAM. OCC			UNACC 0
	28		DTG ALONG sly LAM		27.7	
	29					
	30				Box 9	DEP 30.5
	31				31.4	PULL #6
	32					START 15:40
	33				Box 10	END 16:27
	34					TIME 47 min
	35					DRL 47 min
	36					RAN 40.6
	37				35.1	REC 9.9
	38					LOSS 0.2
					Box 11	UNACC 0
457.6			BOTTOM HOLE		38.9	DEP 38.9
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
L-5/1

DRILLING LOG		Division		INSTALLATION		Hole No. L-5/2	
1. PROJECT GALLIPOLIS Lock + DAM		ORD		OPH-CD		SHEET 2 OF 3 SHEETS	
2. LOCATION (Coordinate or Station) MDND L-5 STA 10+67.90B				10. SIZE AND TYPE OF BIT 4 1/2"		11. DATUM FOR ELEVATION SHOWN (FSM = MSL) M.S.L.	
3. DRILLING AGENCY W. G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-5/2				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE				14. TOTAL NUMBER CORE BOXES 14		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE 12/27/88		STARTED COMPLETED	
7. THICKNESS OF OVERBURDEN 0 497.0				17. ELEVATION TOP OF HOLE 497.0			
8. DEPTH DRILLED INTO ROCK 49.1				18. TOTAL CORE RECOVERY FOR BORING 99.1			
9. TOTAL DEPTH OF HOLE 447.9				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.0	1		SANDSTONE			PULL #1	
	2		LT. GR-GR, M. H, F-CGR.			START 7:33	
	3		MIC, SURFACE FC STAINED			END 7:49	
	4		497.0-496.9, BROKEN PN.			TIME 16 min	
	5		W/10.3 SPACING 497.0-495.0			DRL 16 min	
	6		COL. COM. 490.5-490.0			RAW 5.0	
	7					REC 4.8	
	8					LOSS 0	
	9					UNACCL 0	
	10					DEP 5.0 T/DEP 4.8	
488.6	11		SLT			PULL #2	
	12		GR-GN GR, S, GRADATIONAL			START 8:02	
	13		W/CL @ TOP TO SH BOTTOM			END 8:34	
	14		CL, GR, S, 488.6-487.3, SEV. BK			TIME 36 min	
	15		W/LOSS .02 LOSS 487.6-487.3			DRL 33 min	
	16					RAW 8.1	
	17					REC 7.4	
	18					LOSS 0.2	
	19					UNACCL 0.2	
485.4	20		SANDSTONE			PULL #3	
	21		LT GR. - GR-MH, UGF-MGR.			START 8:49	
	22		SL, SA 482.6-482.5, FC W/SH			END 9:13	
	23		BA + FPA 492.5-492.3, F.M.			TIME 24 min	
	24		GR. 482.4-481.4 P-UEF			DRL 24 min	
	25		SS.			RAW 9.7	
	26					REC 9.5	
	27					LOSS 0	
	28					UNACCL 0	
477.9	29		SLT			PULL #4	
	30		GN GR, S, SA, SS. GR, M.H.			START 9:13	
	31		M. PGR. 478.7-478.5 SA Below			END 9:13	
	32		478.2			TIME 24 min	
	33		SANDSTONE			DRL 24 min	
	34		GR. M.H., F-UEF GR SL.			RAW 9.7	
	35		(CONT)			REC 9.5	
	36					LOSS 0	
	37					UNACCL 0	
477.9	38					PULL #5	
	39					START 9:13	
	40					END 9:13	
	41					TIME 24 min	
	42					DRL 24 min	
	43					RAW 9.7	
	44					REC 9.5	
	45					LOSS 0	
	46					UNACCL 0	
	47					PULL #6	
	48					START 9:13	
	49					END 9:13	
	50					TIME 24 min	
	51					DRL 24 min	
	52					RAW 9.7	
	53					REC 9.5	
	54					LOSS 0	
	55					UNACCL 0	
	56					PULL #7	
	57					START 9:13	
	58					END 9:13	
	59					TIME 24 min	
	60					DRL 24 min	
	61					RAW 9.7	
	62					REC 9.5	
	63					LOSS 0	
	64					UNACCL 0	
	65					PULL #8	
	66					START 9:13	
	67					END 9:13	
	68					TIME 24 min	
	69					DRL 24 min	
	70					RAW 9.7	
	71					REC 9.5	
	72					LOSS 0	
	73					UNACCL 0	
	74					PULL #9	
	75					START 9:13	
	76					END 9:13	
	77					TIME 24 min	
	78					DRL 24 min	
	79					RAW 9.7	
	80					REC 9.5	
	81					LOSS 0	
	82					UNACCL 0	
	83					PULL #10	
	84					START 9:13	
	85					END 9:13	
	86					TIME 24 min	
	87					DRL 24 min	
	88					RAW 9.7	
	89					REC 9.5	
	90					LOSS 0	
	91					UNACCL 0	
	92					PULL #11	
	93					START 9:13	
	94					END 9:13	
	95					TIME 24 min	
	96					DRL 24 min	
	97					RAW 9.7	
	98					REC 9.5	
	99					LOSS 0	
	100					UNACCL 0	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS Lock + DAM HOLE NO. L-5/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS Lock + DAM			9970		L-5/2	
			ORH-CD		OF 3 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #3
	21		sh, low angl. 10° 975.9-975.8		21.5	
975.5						
	22		SLT		7	DEP 22.6 T/DEP 22.4
	23		GR. S-M.H. sh, mech bkn 474.6-474.5			PULL #4
473.4					24.9	START 9:42 END 9:52 TIME 10 min DBL 10 min RAIN 7.1 REC 7.0 LOSS 0 UNACCL
	24		SANDSTONE		8	
	25		LT. GR. - GR, M.H., F-M. GR,			
	26		MIC, OCC SMALL PYR			
	27		bl 472.9-472.7, SMALL			
	28		CAL. MOD. (PATCH) 471.7		28.6	
	29		- 471.6, 470.9-470.2,			DEP 29.5 T/DEP 29.9
	30		OCC THIN sh Bl 468.8-		9	PULL #5
	31		468.4, 463.9-462.9.			START 10:00 END 10:27 TIME 27 min DBL 27 min RAIN 9.9 REC 10.0 LOSS 0 UNACCL
	32		SMALL CAL. MOD. 463.7		32.1	
	33		NUM, mic bl. PIN.		10	
	34		(Bands) 460.6-460.4			
	35		457.2, Few, OCC, SM. H.		35.9	
	36		SH Bl 463.1-460.8			
	37		MECH CHIPPING 457.7		11	
	38		457.6			
	39				39.4	DEP 39.3
	40					PULL #6 T/DEP 39.4
	41				12	START 10:45 END 11:09 TIME 24 min DBL 29 min RAIN 10.1 REC 9.7
	42					
	43				43.0	
	44				13	
			(CONT)		CONT	(CONT)

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF - 628 - 503

PROJECT GALLIPOLIS Lock + DAM

HOLE NO. L-5/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK & DAM		ORH-CD		3 OF 3 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	49		SANDSTONE		13	PULL#6
	45					LOSS @
	46					UNACC @
	47				46.8	
	48				14	
447.9	49		Bottom Hole		49.1	T/DEP 49.1
	50					DEP 49.5
	51					
	52					
	53					
	54					
	55					
	56					
	57					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 625 - 603

PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. 1-5/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORH		ORH-CD		1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2 IN.			
2. LOCATION (Coordinates or Station) MONA L-6 STA 10+98.8				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.			
3. DRILLING AGENCY W.G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-6/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER A. TICE				14. TOTAL NUMBER CORE BOXES 11		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DES. FROM VERT.				16. DATE HOLE STARTED 11/11/89 COMPLETED 11/11/89			
7. THICKNESS OF OVERBURDEN 0 496.0				17. ELEVATION TOP OF HOLE 496.8			
8. DEPTH DRILLED INTO ROCK 40.0				18. TOTAL CORE RECOVERY FOR BORING 40.0			
9. TOTAL DEPTH OF HOLE 456.0				19. SIGNATURE OF INSPECTOR JMD			

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8						PULL #1
	1		SANDSTONE			START 2:14
	2		SLY, M.-C.G., m.h.,		Box 1	END 2:28
	3		M. GR. BKN. (MECH)			TIME 14 min
	4		4.0-5.6 w/ 0.5 LC			DRL 14 min
	5		TIGHT CONTACT			RAN 3.5
	6					REC 3.5
	7					LOSS 0
	8					UNACC 0 DEP 3.5
	9					PULL #2
	10					START 2:40
	11				Box 2	END 2:51
	12					TIME 11 min
	13					DRL 11 min
	14					RAN 8.4
	15					REC 4.4
	16					LOSS 0.5
	17				7.0	UNACC 0
	18					DEP 8.4
	19				Box 3	PULL #3
	20					START 3:06
	21					END 3:20
	22					TIME 14 min
	23				10.9	DRL 14 min
	24					RAN 15.9
	25					REC 7.4
	26					LOSS 0.4
	27				Box 4	UNACC 0
482.5	28					
	29					
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DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.8		Hole No. L-6/1	
PROJECT GALLIPOLIS Locks + DAM				INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
	20		CLS		Box 6	PULL #4	
	21		S., shy., m-dk.gr.			REC 9.1	
474.8	22		Vbkn. 20.6-22.0			LOSS 0	
	23				22.0	UNACC 0	
	24		SANDSTONE		Box 7		
	25		F.-m.g. m.h. m-gr			DEP 25	
	26				25.6	PULL #5	
	27				Box 8	START 16:20	
	28					END 16:27	
	29					TIME 7 min	
	30					DRL 7 min	
	31					RAN 34.9	
	32				29.2	REC 9.9	
	33					LOSS 0	
	34					UNACC 0	
	35				Box 9		
	36				33.0		
	37				Box 10	DEP 34.6	
	38					PULL #6	
	39				36.6	START 16:53	
	40					END 17:00	
	41					TIME 7 min	
	42					DRL 7 min	
	43					RAN 40.	
	44				Box 11	REC 5.1	
456.8			BOTTOM HOLE			LOSS 0	
					40.0	UNACC 0	
						DEP 40.0	

ENG FORM 1836-A  
JUN 47

GPO: 1965 OF-225-243

PROJECT GALLIPOLIS Lock + DAM  
HOLE NO. L-6/1



DRILLING LOG		DIVISION		INSTALLATION		Hole No. L-6/2	
1. PROJECT		2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		SHEET 1 OF 2 SHEETS	
GALLIPOLIS LOCK + DAM		ORD		ORN-CD			
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)		11. DAYUM FOR ELEVATION SHOWN (THIN = SEE)			
W 6 JAGUES		L-6/2		M.S.L.			
5. NAME OF DRILLER		6. DIRECTION OF HOLE		12. MANUFACTURER'S DESIGNATION OF DRILL			
WAYNE TICE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		B.-57 MOBILE			
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		14. TOTAL NUMBER CORE BOXES	
0 497.1		9.1.7		N/A		12	
9. TOTAL DEPTH OF HOLE		15. DATE HOLE		16. ELEVATION GROUND WATER		17. ELEVATION TOP OF HOLE	
455.4		11/10/89		N/A		497.1	
		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR		20. SIGNATURE OF INSPECTOR	
		41.7		JMD			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
497.1	1		SANDSTONE			PULL #1
	2		LT. GR. GR M-HH, M-CGR		1	START 10:05
	3		FE SURFACE STAIN 0.0-0.1			END 10:17
	4		CL COATED PN 6.0, 6.4			TIME 12 min
	5		SH bd 8.2-8.3, CH, CEM			DRL 12 min
	6		9.4-10.3, SH BH 9.1, 9.3		3.7	RAW 5.0
	7		2.9			REC 4.9
	8					LOSS 0.1
	9					UNACL 0.1
	10				2	DEPT/DEP 5.6
	11		SLT			PULL #2
	12		GR-SW GR. S-MH.		7.3	START 10:21
	13		GRADATIONAL W/CL AT TOP			END 10:49
	14		TO SH AT BOTTOM, SE BK 10.9		3	TIME 23 min
	15		-11.2, LOW ANG PN 20°			DRL 23 min
	16		W/SLK 11.9-12.0			RAW 10.1
	17					REC 10.1
	18					LOSS 0
	19				10.9	UNACL 0
	20				4	T/DEPT/DEP 15.1
	21					PULL #3
	22		SANDSTONE		5	START 11:10
	23		LT GR-GR, M.H. - HH,			END 11:23
	24		F. - MGR, OCC MIC.			TIME 13 min
	25		(CONT)		18.2	DRL 13 min
	26				6	RAW 9.7
	27				(CONT)	REC 9.7
	28					LOSS 0
	29					(CONT)

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK + DAM

HOLE NO.  
L-6/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. L-6/2		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
6ALLIPOLIS LOCK+DAM		ORH-CD				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		GRADATIONAL CONTACT.			UNACC Ø
	22		W/ UPPER SLT, CAL. CEM.		21.9	
	23		16.8-17.1, 21.5-22.9		7	
	24		24.8-28.0, 35.2-36.8			T/DEPT DEP 24.8
	25		P. GR ABOVE 20.0,		25.5	PULL #4
	26		FEW OCC. SMALL TAIN		8	START 12:31 END 12:46 TIME 15 MIN DEL 15 MIN PAN 9.7 REC 9.7 LOSS Ø UNACC Ø
	27		SH Bd Below 21.5			
	28		CAL, CEM. MOD 12.9		29.0	
	29		29.5, 30.1		9	
	30					
	31					
	32				32.8	
	33				10	T/DEPT DEP 34.7 PULL #5
	34				36.2	START 13:00 END 13:35 TIME 35 MIN DEL 35 MIN PAN 7.0 REC 7.0 LOSS Ø UNACC Ø
	35				11	
	36					
	37				12.	
	38				41.7	T/DEPT DEP 41.7
	39					
	40					
	41					
455.4	42		BOTTOM HOLE			
	43					
	44					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT 6ALLIPOLIS LOCK+DAM HOLE NO. L-6/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
		ORD		ORH-CD		OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK AND DAM				10. SIZE AND TYPE OF BIT 4 1/2 IN			
2. LOCATION (Coordinate or Station) MOUND L-7 STA 10+00 B				11. DATUM FOR ELEVATION SHOWN (FEET or METER) M.S.L.			
3. DRILLING AGENCY W. B. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-7/1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		UNDISTURBED	
5. NAME OF DRILLER DAVID HARPER				14. TOTAL NUMBER CORE BOXES 11		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE 1-11-89		17. ELEVATION TOP OF HOLE 497.0	
7. THICKNESS OF OVERBURDEN 0 497.0				18. TOTAL CORE RECOVERY FOR BORING 38.2		19. SIGNATURE OF INSPECTOR JMD	
8. DEPTH DRILLED INTO ROCK 38.2							
9. TOTAL DEPTH OF HOLE 458.8							

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
497.0	1		SANDSTONE.		Box 1	PULL #1 START 9:15 END 9:30 TIME 15 min DRL 15 min RAN 3.0 REC 2.8 LOSS .2 UNACCL 0
	2		M.C.G., M.H., M.G.R. TO 5.8 M. SPACED, IRR			
	3		PTGS ALONG THIN, MIC. SLY			
	4		LAM. 0.2 LC (MECH) BTWN			
	5		0.0 + 3.0: 0.3 CLS @ 5.5-			
	6		5.8: 5. CLS @ 10. @ 18.8-			
	7		19.3 W/ Hvy. S, GR CL. FL.			
491.2	8		SANDSTONE		Box 2	PULL #2 START 9:40 END 9:50 TIME 10 min DRL 10 min RAN 7.0 REC 4.0 LOSS 0 UNACCL 0
	9		SLY, Fg. M.H., M.G.R.			
	10		W/ THIN, DK. GR. SLY			
	11		MIC. LAM			
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
			(CONT)			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
			(CONT)			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-7/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS Lock + DAM		ORH-LD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20				Box 6	PULL #5
	21		SANDSTONE		21.0	START 11:08
	22				Box 7	END 11:47
	23		SLY, Fig m.h., m.gr			TIME 39 min
	24		w/ thin, dk.gr. sly			DRL 39 min
	25		mic lam			RAN 25.6
	26					REC 6.1
	27					LOSS 0
	28					UNACC 0
	29				24.8	
	30					DEP 25.6
	31				Box 8	PULL #6
	32					START 12:35
	33				28.3	END 13:15
	34					TIME 40 min
	35				Box 9	DRL 40 min
	36					RAN 35.3
	37					REC 9.7
	38					LOSS 0
	39					UNACC 0
	40				32.0	
463.9	41				Box 10	
	42		CLS/SS			
	43		INTER bed			
461.9	44				35.3	DEP 35.3
	45					PULL #7
	46		SANDSTONE		Box 11	START 13:30 UNACC 0
	47		SLY, Fig. m.h., m.gr			END 13:47
	48		w. thin sly lam.			TIME 17 min
	49					DRL 17 min
	50					RAN 38.2
458.8	51					REC 2.2
	52					LOSS .7
	53				38.2	DEP 38.2
	54					
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ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-243

PROJECT  
GALLIPOLIS Lock + DAM

HOLE NO.  
L-7/1

DRILLING LOG		DIVISION <b>ORD</b>		INSTALLATION <b>ORH-CD</b>		Hole No. <b>L-7/2</b> SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinate or Station) <b>MONO L-7 9454 B</b>				11. DAYON FOR ELEVATION SHOWN (YES or NO) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JAGUES</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B 57 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>L-7/2</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>WAYNETICE / D. MORRIS</b>				14. TOTAL NUMBER CORE BOXES <b>11</b>		UNDISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE STARTED <b>11/10/89</b> COMPLETED <b>11/10/89</b>	
7. THICKNESS OF OVERBURDEN <b>0 496.9</b>				17. ELEVATION TOP OF HOLE <b>496.9</b>		18. TOTAL CORE RECOVERY FOR BORING <b>38.9</b>	
8. DEPTH DRILLED INTO ROCK <b>38.9</b>				19. SIGNATURE OF INSPECTOR <b>LMD</b>			
9. TOTAL DEPTH OF HOLE <b>458.0</b>							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE gr, m.H. m.-c.gr, occ			PULL #1 START 13.56 END 14.12 TIME 16min DRL 16min RAW - REC 5.0 LOSS 0 UNAKL 0 DEP 50
	2		Mic, BEN @ SURFACE		3.5	
	3		O.O - O.4, SA SCAM 3.5-3.7			
	4		7.1-7.2, 7.5-7.6, 3M CL		2	
	5		NOT 7.0.			
	6					
	7					
	8					
387.9	9		CL gr, v.e.s.-s, CLAYEY 9.0-9.4 SLT below 9.4, RAY CONTACT w/ LUPPEN SS.			PULL #2 START 14.15 END 14.31 TIME 16min DRL 16min RAW 9.5 REC 9.5 LOSS 0 UNAKL 0
486.9	10					
	11		SLT gr, s-m.H., occ gradational		11.0	
	12		Inter bed w/ clay Ag.		4	
	13		SS, SS.F.G. gr m.H. 11.7			
	14		13.0		14.5	TIDEP + DEP 14.5
	15					
480.8	16					PULL #3 START 14.40 END 14.55 TIME 15min DRL 15min RAW 10.0 REC 10.0 LOSS 0 UNAKL 0 (CONT)
	17		SANDSTONE. LT gn-gr. m.-H, f-m. gr		5	
	18		Mic, SA SCAM 18.6-18.7		18.5	
	19		CAL. C.M., 19.2-21.9, 23.8-X		6	
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK + DAM

HOLE NO.  
L-7/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCKED DAM		ORHCD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #3
	21		29.9-31.3, ANG FRAC. 45°			
	22		21.9-22.2, BKN 23.2-23.9		21.9	
	23		HIGH ANG. FRAC. 23.8-24.8			
	24		Occ sm thin sh bl. 22.6-22.7		7	T/DEP + DEP 24.5
	25		31.2		25.4	PULL #4
	26					START 15:10
	27				8	END 15:27
	28					TIME 17min
	29					DRL 17min
	30					RAN 11.1
	31					REL 10.2
	32				29.1	LOSS 0.9
	33					UNACCL 0.9
462.6	34		SLT		9	PULL #5
	35		SP, S-H, SH, SS, SEAM LTGR. MGR, CAL, SANDYR. MOD.			START 15:50
461.3	36		SANDSTONE LTGR. H. MGR CAL, CONGLOMERATE 36.3-36.5 UNACCL FRAG		32.9	END 16:00
460.4	37		ICL			TIME 10min
	38		L. BR, S, mottled w/gabbro 37.5, ANG. PLV. 30° W / SLK		10	DRL 10min
458.0	39		38.0-38.2 BOTTOM HOLE			RAN 3.3
	40					REL 3.3
	41					LOSS 0
	42					UNACCL 0
	43				37.3	
	44				11	
					38.9	T/DEP DEP 38.9

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1960 OF-628-603

PROJECT

GALLIPOLIS LOCKED DAM

HOLE NO.

L-7/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>L-8/1</u>	
		<u>ORD</u>		<u>ORHCD</u>		SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>				10. SIZE AND TYPE OF BIT <u>4 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MOND L-8 STA 944B</u>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. G. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-8/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u>	
				UNDISTURBED <u>N/A</u>			
5. NAME OF DRILLER <u>STEVE FRY</u>				14. TOTAL NUMBER CORE BOXES <u>11</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>0 497.1</u>				16. DATE HOLE STARTED <u>11/10/89</u> COMPLETED <u>11/10/89</u>			
8. DEPTH DRILLED INTO ROCK <u>38.2</u>				17. ELEVATION TOP OF HOLE <u>497.1</u>			
9. TOTAL DEPTH OF HOLE <u>458.9</u>				18. TOTAL CORE RECOVERY FOR BORING <u>38.2</u>			
				19. SIGNATURE OF INSPECTOR <u>LMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.1			SANDSTONE			PULL #1	
	1		LT. GR-SR, H.-M.H, M-CGR.			START 17.48	
	2		OCC. MIC, BKN PN 0.2 SPACE		1	END 17.56	
	3		O.D-1.0, SM. SH. BL/PNG			TIME 25min	
	4		4.2-9.4, 7.5, BKN PN 0.3		3.5	DPL 25min	
	5		SPACED 7.3-10.3, CAL			RAN -	
	6		CEM 13.3-14.2, CL, GR.		2	REC 9.1	
	7		S. 14.2-19.3			LOSS 0.4	
	8				7.3	UNACC 0.4	
	9				3	DEP 9.6 T/DEP 9.4	
	10					PULL #2	
	11				11.0	START 18.25	
	12					END 18.55	
	13				4	TIME 30min	
	14					DPL 30min	
482.9	15		SLS			RAN -	
	16		GR. M.H. Sa.		14.5	REC 9.5	
481.6	17		SANDSTONE			LOSS 0	
	18		LT. GR-GR, M. H. F-M. GR.		5	UNACC 0	
	19		MIC, V.E.F. GR (SLT) ABOVE				
	20		22.5, HIGH ANG / FUAL 16.0		19.1		
			16.7, CLAY, S-AM 18.6, 0.05		6	T/DEP 18.9	
			(CONT)		CONT.		

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
L-8/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE 497.1		Hole No. L-8/1		
PROJECT GALLIPOLIS LOCK & DAM		INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	DEP 20.4
	21		THICK, CAL, CEM. 26.9-27.7,			PULL #3
	22		32.8-34.6, Thin, Bd. 28.2		21.7	START 19:00 END 19:45 TIME 45min DRL 45min RAN - REC 10.1
	23		NUM. S. SLS, FRAG. 34.6 -		7	
	24		34.8			LOSS 0.1 UNAC 0.1
	25				25.0	
	26					
	27				8	
	28					
	29				28.6	DEP 29.3 T/DEP 29.1
	30					PULL #4
	31				9	START 19:55 END 20:45 TIME 50min DRL 50min RAN - REC 8.7 LOSS 0.4 UNAC 0.4
	32				32.2	
	33					
	34				10	
462.0	35					
	36		SLS		36.0	
	37		36.1, S, SH, INTERBED w/cls CL 36.2-36.8, CLS CANS OOS THICK 36.7, 37.0, 37.5, 37.6		11	
458.9	38		BOTTOM HOLE		38.2	T/DEP 38.2
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(NR 1110-1-1001)

GPO 1960 OF - 822 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-8/1



DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>L-8/2</u>	
		<u>ORH-CD</u>		<u>ORH-CD</u>		SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>				10. SIZE AND TYPE OF BIT <u>4 X 5 1/2</u>			
2. LOCATION (Coordinate or Station) <u>MONO L-8 STA 9+00 B</u>				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. G. JAGUES</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-57 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-8/2</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		UNDISTURBED	
				<u>N/A</u>		<u>N/A</u>	
5. NAME OF DRILLER <u>DOWELL NORRIS</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>			
				16. DATE HOLE		STARTED <u>11/10/87</u>	
						COMPLETED <u>11/10/87</u>	
7. THICKNESS OF OVERBURDEN <u>496.7</u>				17. ELEVATION TOP OF HOLE <u>996.7</u>			
8. DEPTH DRILLED INTO ROCK <u>39.1</u>				18. TOTAL CORE RECOVERY FOR BORING <u>38.6</u>			
9. TOTAL DEPTH OF HOLE <u>457.6</u>				19. SIGNATURE OF INSPECTOR <u>JMN</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
<u>497.6</u>	1		SANDSTONE			PULL #1	
	2		LTGR - GR, MH-H, M-CGR		1	START 4:30	
	3		OCC MIC, BEU/PN w/spacing			END 4:45	
	4		O-2, O-2.1, CAL, CEM. 4.3-			TIME 15min	
	5		6.2			DRL 15min	
	6					RAN 4.8	
	7				3.7	REC 4.7	
	8					LOSS 0	
	9					UNACC 0	
<u>488.8</u>	10					DEP 4.8 T/DEP 4.7	
	11		CLS			PULL #2	
	12		GR, S, SH, NUM FINE VES.		2	START 4:50	
	13					END 5:15	
	14				7.3	TIME 25min	
	15					DRL 25min	
	16					RAN 5.0	
<u>487.5</u>	17				3	REC 10.3	
	18					LOSS -	
	19					UNACC - T/DEP 9.8	
	20						
	21		SANDSTONE				
	22		LTGR - GR, MH-H, F-MGR		4	DEP 15.0	
	23		MIC, OCC THIN SH, SH			PULL #3	
	24		17.0-17.7, 20.0-20.9, 27.2		5	START 5:30	
	25		-27.3, SL 31th BEU 21.2-22.0			END 5:50	
	26					TIME 20min	
	27					DRL 20min	
	28				18.9	RAN -	
	29				6	REC 9.9	
	30					LOSS 0	
	31					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-8/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK+DAM				96.7		L-8/2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SANDSTONE			PULL #3	
	21		CAI, CEM. NOD. 23.8		6	UNACCD	
	22		CAI CEM. 26.5-27.5		22.8		
	23		SHALE SCAM @ 30° AN9		7	DEP 23.8	
	24		W/SIX 29.6-29.8			TIDEP 29.9	
	25					PULL #4	
	26				25.4	START 6:05	
	27					END 6:40	
	28				8	TIME 35min	
	29					DRL 35min	
	30					RAN 8.9	
466.6	30				27.3	REC 7.2	
	31		CLS			LOSS 0.1	
	32		gr-dk gr., S, sh, scurfy		9	UNACCD 0.1	
464.5	32		3EN W/loss 31.2-32.3			TIDEP+DEP 32.2	
	33		ICL		33.0	PULL #5	
	34		R-br, S: mottled w/gr			START 7:10	
	35		+ gn. gr., num. FRNC. w/		10	END 7:45	
	36		sik, si, less R-br			TIME 35min	
	37		more gn. gr. & silty 36.4			DRL 35min	
	38		less SKN			RAN 6.9	
458.1	38		Bot+10m HOLE		38.4	REC 6.4	
	39					LOSS 0	
	40					UNACCD	
	41					TIDEP 38.6	
	42					DEP 39.1	
	43						
	44						

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS LOCK+DAM

HOLE NO.

L-8/2

PROJECT	HOLE NO.
GALLI POLIS LOCK & DAM	L-9/11

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.			
PROJECT		INSTALLATION		SHEET			
GALLIPOLIS LOCK & DAM		ORH-CD		2			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	21		SANDSTONE		Box 6	PULL #4	
	22				22.1		
	23				Box 7		
	24						
	25				24.6	DEP 24.6	
	26		CLS M.G.R., S.M.H.		Box 8	PULL #5	
470.0	27					START 7:18	
	28					END 7:55	
	29		ICL R.B.R., BKN, SLKN.			Time 37 min	
467.9	30				28.1	DRL 37 min	
	31					RAN 34.1	
	32					REL 9.5	
	33				Box 9	LOSS 0	
	34					UNAC 0	
	35				34.9		
	36				Box 10		
	37					DEP 34.1	
	38					PULL #6	
	39		Bottom Hole		35.3	START 8:20 LOSS 0	
	40					END 8:40	
	41					Time 20 min UNAC 0.2	
	42					DRL 20 min	
	43				Box 11	RAN 37.9	
459.1	44				REL 3.6		
	45			37.9	DEP 37.9		

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-328-543

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
L-9/1

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		ORD		OAH-CD		L-712	
2. LOCATION (Coordinates or Station) <b>MANO L-9 STA 8465 B</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>		SHEET 1	
3. DRILLING AGENCY <b>W. G. JAGUES</b>				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) <b>M.S.L.</b>		OF 2 SHEETS	
4. HOLE NO. (As shown on drawing title and file number) <b>L-9/2</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>			
5. NAME OF DRILLER <b>D. NOERIS</b>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		DISTURBED <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES <b>11</b>		UNDISTURBED <b>N/A</b>	
7. THICKNESS OF OVERBURDEN <b>0 496.9</b>				15. ELEVATION GROUND WATER <b>N/A</b>			
8. DEPTH DRILLED INTO ROCK <b>37.2</b>				16. DATE HOLE STARTED <b>1/10/89</b> COMPLETED <b>1/11/89</b>			
9. TOTAL DEPTH OF HOLE				17. ELEVATION TOP OF HOLE <b>496.9</b>			
				18. TOTAL CORE RECOVERY FOR BORING <b>37.2</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.9	1		SANDSTONE m-c.g., m.h., m-gr.		Box 1	PULL #1 START 20:45 END 21:00 TIME 15min DRL 15min RAN 4.9 REC 4.9 LOSS 0 UNALL 0	
493.1	4		SANDSTONE sly, f, m.g., m.h., m.gr.		Box 2	DEP 4.9 PULL #2 START 21:05 END 21:25 TIME 20min DRL 20min RAN 15.2 REC 10.3 LOSS 0 UNALL 0	
489.7	7		SLS chy-SA., s. m.h., m.gr.		Box 3		
	8				Box 4		
	9				Box 5		
	10				Box 6		
	11				Box 7		
	12				Box 8		
	13				Box 9		
	14				Box 10		
486.9	15		SANDSTONE fly, fig, m.h., m.gr.		Box 11	DEP 15.2 PULL #3 START 21:40 END 22:05 TIME 25min DRL 25min RAN 24.9	
	16		w/occ., m-DK.g.R.		Box 12		
	17		sly. LAM & ZOS: 1"		Box 13		
	18		IRR. CLS LAM @ 27.0		Box 14		
	19				Box 15		
	20		(CONT)		(CONT)	(CONT)	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-9/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No.		
PROJECT				496.9	L-9/2		
GALLIPOLIS Lock + DAM				INSTALLATION	SHEET 2 OF 2 SHEETS		
				GRH-CD			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SANDSTONE		Box 6	Pull #3	
	21						
	22						
	23						
	24						
472.2							
	25		CLS occ. sly., s-m.h., m.gr VE bkn 24.7-24.9 GRADING INTO		24.9	DEP 24.9	
470.3	26						Pull #4
	27		ICL  R. br - greenish  gr., s-m.h., slk.		Box 8	START 22:25 END 23:25 TIME 60 min DRL 60 min	
	28						
	29						
	30						
	31						
	32						
	33						
	34						
	35						
	36						
	37						
	38						
457.4	39		Bottom Hole		Box 10	DEP 33.7	
	40					Pull #5	
	41					1/11/91	
	42					START 7:30	
	43					END 7:54	
	44					TIME 24 min	
					Box 11	DRL 24 min	
						RAN 39.2	
						REC 5.5	
						LOSS 0	
						UNACC 0	
					39.2	DEP 39.2	

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-229-342

PROJECT  
GALLIPOLIS Lock + DAM  
HOLE NO.  
L-9/2

DRILLING LOG			INSTALLATION		SHEET 1 OF 2 SHEETS	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>			NO. SIZE AND TYPE OF BIT <b>4" X 5.5"</b>		11. DATUM FOR ELEVATION SHOWN (FEET or INCHES) <b>M.S.L.</b>	
2. LOCATION (Coordinates or Station) <b>MONO L-10 STA 8+55.3</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>H-53 MOBILE</b>			
3. DRILLING AGENCY <b>W. B. JAPQUES</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>L-10/1</b>			14. TOTAL NUMBER CORE BOXES <b>11</b>			
5. NAME OF DRILLER <b>DAVID HARPER / STEVE FRY</b>			15. ELEVATION GROUND WATER <b>N/A</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			16. DATE HOLE STARTED <b>1/12/88</b> COMPLETED <b>1/12/88</b>			
7. THICKNESS OF OVERBURDEN <b>0 497.0</b>			17. ELEVATION TOP OF HOLE <b>497.0</b>			
8. DEPTH DRILLED INTO ROCK <b>38.3</b>			18. TOTAL CORE RECOVERY FOR BORING <b>38.3</b>			
9. TOTAL DEPTH OF HOLE <b>448.7</b>			19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE m.c.g, m.h, m.g.R		Box 1	PULL #1 START 1:55 END 2:04 TIME 9min DRL 9min RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	2		BKN 0.0 - 2.7 ANG			
	3		CONTACT		3.8	
	4				Box 2	DEPT/IDEP 5.0 PULL #2 START 2:15 UNACC 0 END 2:21 TIME 6min DRL 6min RAN - REC 4.3 LOSS 0 DEPT/IDEP 9.3
	5					
	6					
	7					
488.8	8				Box 3	
488.3	9		CLS S. m.h., m. dkgr o. / s. gr CL @ 8.2 TR GR. CL. Filling @ 8.7			
	10		SANDSTONE shy m.h., m. gr, fig		10.3	PULL #3 START 2:30 END 3:04 TIME 34min DRL 34min RAN - REC 9.1 LOSS 0 UNACC 0
	11		NEAR HOR PTG ALONG shy str @ 11.8 CLS/CLS		Box 4	
	12		20 @ 13.2 - 13.8 w/FRAC IN CLS 13.3 - 13.5			
483.9	13				13.8	
	14		SS/CLS Interbedded CLS - 16.2 - 16.5 HOR. PTG ON BOTH SIDES HOR PTG @ 16.0 1" CLS LEN @ 17.0 (shy BKN) CLS - 17.4 - 17.7 CLS - 19.2 - 20.4 w/1 CLOSELY SPACED HOR PTGS 1 TR. GR. CL. THIN LAM (PROB AREA OF 0.1 LC.) MECH PTG @ 21.7		Box 5	
	15					
	16				17.4	
	17				Box 6	TRDEP 18.4
	18					
	19					
	20		(CONT)	(CONT)		DEP 19.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
L-10/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
GALLIPOLIS LOCK DAM				OCH-CD		2	
OF 2 SHEETS							
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO. F	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SS/CLS		Box 6		
	21				20.0	PULL #4	
	22				Box 7	START 3:50	
	23					END 4:18	
473.9	23					TIME 28 min	
	24		CLS			DRL 28 min	
	25		shy, sh, m.-dk. g. s		23.4	RAN 17.1	
	26		m.h. PTg. (mch) @ 22.1		Box 8	REC 13.5	
	27		23.7: 1" SS. LAM @ 20.1			LOSS 0	
	28		shy. SLK. 24.3, 25.9: 950			UNACC 0	
	29		SLK PTg @ 26.6 26.8				
	30		10R SLK PTg @ 27.0				
	31		grading into				
468.8	31				22.9		
	32		ICL		Box 9		
	33		R. br, SLK; BRN,				
	34		S.-m.h. O.S L.C.				
	35		btwn 28.2 & 33.5		31.5		
	36				Box 10		
	37						
	38						
458.7	38				35.7	DEP + T/DLP 35.5	
	39					PULL #5	
	40					START 5:25	
	41					END 5:37	
	42					TIME 12 min	
	43					DRL 12 min	
	44					RAN 2:8	
	45					REC 2.8	
	46				38.3	LOSS 0	
	47					UNACC 0	
	48					T/DLP 38.3	
	49					DEP 39.3	
	50						
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ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-229-243

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO.  
L-10/1



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		DAH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT		4 X 5.5"	
3. DRILLING AGENCY		W. G. JAGUES		11. DATE FOR ELEVATION SHOWN (FEB = 1988)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		L-10/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		A. TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		11	
7. THICKNESS OF OVERBURDEN		0 496.1		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.0		16. DATE HOLE		STARTED 1-11-89 COMPLETED 1-11-89	
9. TOTAL DEPTH OF HOLE		448.1		17. ELEVATION TOP OF HOLE		496.1	
				18. TOTAL CORE RECOVERY FOR BORING		38.0	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.1	1		SANDSTONE SLY, M-C.G., m.h., O.Z L.C. 0.0-0.5 GRADING INTO		Box 1	PULL #1 START 8:20 END 8:30 TIME 10 min DRL 10 min RAN 5.0 REC 4.8 LOSS .2 UNACC 0	
491.7	4		SANDSTONE SLY, fig., m.h., M.GA		Box 2	DEP 5.0 PULL #2 START 8:35 END 9:12 TIME 37.0 min DRL 37.0 min RAN 14.8 REC 9.8 LOSS 0 UNACC 0	
488.0	8		CLS GR. VS. IRR CONTACT		Box 3	DEP 14.8 PULL #3 START 9:25 END 9:43 TIME 18 min DRL 18 min RAN 24.7	
481.0	9		CLS SLY, S-M.H. BKN 10.2-10.6' 11.2-11.4 BKN, HA, IRR FRAC 13.6-14.0		Box 4	(CONT)	
481.3	15		SANDSTONE SLY. fig., m.h., m. GR. w/ thin sly. LAM 205.		Box 5	(CONT)	
	20		(CONT)		Box 6	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCKS & DAM HOLE NO. L-10/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock & DAM		496.1		L-10/2		
		ORH-CD		2		
OF 2 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		Box 6	PULL #3
	21					REC 9.9
						LOSS 0
						UNACCL 0
473.8	22				22.3	LOSS OF DRILL
	23		CLS / SLT			WATER THROUGH
	24		INTER bed, S.-M.h.,		Box 7	FRAC TO SURFACE
			M. GR V. BKN. 22.3-23.1;			30'-40' FROM HOLE
	25		SLK ANG. PTG 23.4-			DEP 24.7
			24.0			PULL #4
	26				26.0	START 10:10
						END 10:35
	27					TIME 25 min
					Box 8	DRL 25 min
	28					RAN 30.0
284.0						REC 5.3
	29		ICL			LOSS 0
						UNACCL 0
	30		SLK, GREENISH-		29.7	DEP 30.0
			R. BR S.-M.h.			PULL #5
	31				Box 9	START 10:50
	32					END 11:09
						TIME 18 min
	33				33.2	DRL 18 min
						RAN 38.0
	34				Box 10	REC 8.0
						LOSS 0
	35					UNACCL 0
	36				35.9	
	37				Box 11	
458.1	38		Bottom hole		38.0	DEP 38.0
	39					
	40					
	41					
	42					
	43					

ENG FORM 1836-A  
JUN 67

OPD: 1969 OF-328-243

PROJECT GALLIPOLIS Lock & DAM  
HOLE NO. L-10/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK DAM		10. SIZE AND TYPE OF BIT		4" x 5 1/2"	
3. DRILLING AGENCY		W. G. JACOBS		11. DAYUM FOR ELEVATION SHOWN (TBM - MSL)		11.5-6	
4. HOLE NO. (As shown on drawing title and file number)		L-11/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		0 496.9		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		37.0		16. DATE HOLE		STARTED 1/12/89 COMPLETED 1/12/89	
9. TOTAL DEPTH OF HOLE		459.9		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		37.0 %	
				19. SIGNATURE OF INSPECTOR		JMU	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SANDSTONE		Box 1	PULL #1 START 6:05 END 6:10 TIME 5min DRL 5min RAN 4.9 REC 4.3 LOSS 1.3 UNAC 1.3	
	2		M.C.G., m.h., m.g.R.				
	3		V.B.R. 0.0-0.8 w/o. 3 L.C.				
	4		(MECH) CLOSELY SPACED		3.8		
	5		O. NEAR HOR. bdd/plws		Box 2	T/DEP 4.9 DEP 4.9 PULL #2 START 6:17 END 6:35 TIME 18min DRL 18min RAN 3.8 REC 3.6 LOSS 0.3 UNAC 0.3	
	6		Throughout; 0.3		2.3		
	7		L.C. (mech) b/w #6 & 7				
	8		0.3				
487.6	9				Box 3	T/DEP 8.4 DEP 8.7	
487.2	10		CLS				
	11		VE. S m. dk. gr.		11.1		
	12		SLs		Box 4	PULL #3 START 6:48 END 7:21 TIME 33min DRL 33min RAN 9.8 REC 10.2 LOSS 0 UNAC 0	
	13		SA, m.-dk. gr., PTGS				
	14		Shy O. CONTACT				
482.4	15		SANDSTONE		14.8		
	16		SLY., fig., m.h., m.g.R.		Box 5		
	17		w/ CLS/SLs LAM. & LENSES				
	18		SLs. Zu 15.0-15.4' VE. S.		18.5	DEP & T/DEP 18.5	
	19		g.R. CL. 15.4-15.5' SLs. b/w		Box 6	PULL #4	
	20		(CONT)		CONT	(CONT)	

ENG FORM 1836  
MAR 71  
PREVIOUS EDITIONS ARE OBSOLETE.  
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PROJECT  
GALLIPOLIS LOCK DAM  
HOLE NO.  
L-11/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.9		Hole No. L-11/1	
PROJECT GALLIPOLIS Lock & Dam			INSTALLATION OPH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		806	PULL #4
	21		w/ tr. gr. cl. con. prgs			START 7:35
	22		16.6 - 17.0: mech. pty @		22.3	END 8:25
	23		17.2, 17.6, 18.0, 20.6, 21.2			TIME 50 min
	24		v. bkn 22.8 - 27.8 w/		807	DRL 50 min
	25		4.1 L.C.			RAN 8.0
	26					REC 5.2
	27					LOSS 4.1
469.1						UNACC 4.1
	28					DEPT/T/REP 26.5
	29		ICL			PULL #5
	30		R. br., SLK, S.-m.h.		29.7	START 9:25
	31		UC. 5, BKN 27.8-37.0			END 10:12
	32		w/ 2.3 L.C.			TIME 47 min
	33					DRL 47 min
	34				301	RAN 10.4
	35				8	REC 6.9
	36					LOSS 2.3
	37					UNACC 2.3
459.9						
	38					
	39					
	40					
	41					
	42					
	43					
	44					
			BOTTOM HOLE		37.0	DEPT/T/REP 37.0

ENG FORM 1836-A  
JAN 67

GPO: 1967 OF-225-245

PROJECT  
GALLIPOLIS Lock & Dam

HOLE NO.  
L-11/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT <b>GALLIPOLIS LOCK &amp; DAM</b>		ORD		ORN-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <b>MDND L-11 STA 7+64.3</b>		10. SIZE AND TYPE OF BIT <b>4 1/2" V</b>		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.) <b>M.S.L</b>			
3. DRILLING AGENCY <b>W. G. JAGUES</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>L-11/2</b>		14. TOTAL NUMBER CORE BOXES <b>11</b>		15. ELEVATION GROUND WATER <b>N/A</b>			
5. NAME OF DRILLER <b>DOWELL MORRIS</b>		16. DATE HOLE <b>11/2/89</b>		STARTED <b>11/2/89</b>		COMPLETED <b>11/13/89</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE <b>496.5</b>		18. TOTAL CORE RECOVERY FOR BORING <b>38.0</b>			
7. THICKNESS OF OVERBURDEN <b>496.5</b>		19. SIGNATURE OF INSPECTOR <b>JMO</b>					
8. DEPTH DRILLED INTO ROCK <b>38.0</b>							
9. TOTAL DEPTH OF HOLE <b>458.5</b>							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1		SANDSTONE			PULL #1
	2		M.C.G., m.h., m.g.R		Box 1	START 10:10
	3		BKN INTO SM SECT			END 10:25
	4		(MAX 0.3) 0.0-1.8;			TIME 15 min
	5		5 PTS @ 4.2			DEL 15 min
	6					RAN 5.0
	7					REL 5.0
	8				3.8	LOSS 0
	9					LNACC 0
	10				Box 2	DEPT TIDEP 5.0
	11					PULL #2
	12					START 10:30
	13					END 11:10
	14					TIME 40 min
	15					DEL 40 min
	16					RAN 7.9
	17				Box 3	REL 10.2
	18					LOSS 0
	19					LNACC 0
	20				11.3	
489.6	21		CLS/ICL			TIDEP 13.2
	22		S. m.h., m.-dk.g.R.			
	23		VE.S., BKN 6.9-7.5:			
	24		grading sly w/depth:			
	25		HA, 0.1, IRR JT 12.5-13.0			
	26		HOR. sly PTS @ 13.4			
	27					
	28					
	29					
	30					
483.1	31		SS/CLS			
	32		Sly: SS. fig, m.h., m.g.R			
	33		CLS s.m.h -m. dk.g.R.			
	34		CLS - 15.0-15.7 (BKN 15.0-15.3) PTS @ 15.7: 15.9			
	35		SLI. ANG PTS ALONG			
	36		THIN DK.GR. sly. lam			
	37		@ 16.6, 17.0, 17.2 & 18.1			
	38		CLS incl 18.5-19.3:			
	39		CLS lam! incl 19.3-			
	40		21.7: CLOSE PTS ALONG			
	41		ALONG THIN CLS LAM			
	42		(CONT)			

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(TRANSLUCENT)

PROJECT HOLE NO.  
GALLIPOLIS LOCK & DAM L-11/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS Lock & Dam		ORH-CD		496.5		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	20		SS/CLS		Box 6	PULL #3
474.8	21		20.0 - 20.6: 1/2 CRUSHED CLS LAM @ 21.5 grading			LOSS 0 UNACC 0
473.8	22		CLS S.M.H., M.-DK.G.R. GRADING		22.4	
	23		CLS/ICL		Box 7	
	24		M.-DK.G.R., S.-M.H. SLK PT9. @ 22.7-23.0			
	25		1/2 23.6: VEBK. 24.0-24.5 W/DKCL. 0.1			DED + T/DEP 25.0 PULL #4
	26		CRUSHED, DK.G.R. CLS PLD. AN9 JT. @ 26.4		26.0	START 8:50 END 9:12 TIME 22min DRL 22min RAN - REC 4.9 LOSS 0
469.0	27		26.6 (PROB SAME CONCL 24.0-24.5) GRADING INTO		Box 8	
	28		ICL			
	29		R. BR., S.-M.H., BLN,			
	30		SLK 0.7 L.C. BTWN		29.5	UNACC 0 T/DEP 29.6 DGP 29.1
	31		29.5 1/2 38.0		Box 9	PULL #5
	32					START 9:29 END 10:30 TIME 1HR DRL 1HR RAN - REC 7.8 LOSS 0.7 UNACC 0.7
	33				33.1	
	34				Box 10	
	35					
	36					
	37				36.9	
458.5	38		BOTTOM HOLE		Box 11	
	39				38.0	DEP 38.2 T/DEP 38.0
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-329-263

PROJECT  
GALLIPOLIS Lock & Dam

HOLE NO.  
L-11/2

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.		SHEET	
1. PROJECT		ORD		DR4-CD		L-12/1		SHEET 1	
2. LOCATION (Coordinate or Station)		GALLIPOLIS LOCK 1 DAM		10. SIZE AND TYPE OF BIT		415.5"		OF 2 SHEETS	
3. DRILLING AGENCY		W. G. JADUES		11. DATUM FOR ELEVATION SHOWN (TBM or BM)		M.S.L.			
4. HOLE NO. (As shown on drawing title and file number)		L-12/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE			
5. NAME OF DRILLER		STCUE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED		UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		14. TOTAL NUMBER CORE BOXES		11			
7. THICKNESS OF OVERBURDEN		496.7		15. ELEVATION GROUND WATER		NA			
8. DEPTH DRILLED INTO ROCK		37.9		16. DATE HOLE		STARTED		COMPLETED	
9. TOTAL DEPTH OF HOLE		458.8		17. ELEVATION TOP OF HOLE		496.7		11/13/89	
				18. TOTAL CORE RECOVERY FOR BORING		37.7'			
				19. SIGNATURE OF INSPECTOR		JMO			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.7	1		SANDSTONE			PULL #1
	2		M.-C.S., m. h., m. gr		Box 1	START 11:05
	3		W/O.1 L.3 BKN.0.0			END 11:25
	4		-5.2 (AVE 0.2 PIECES)			TIME 30 min
	5					DRL 30 min
491.6	6				3.6	RAW 5.0
	7					REC 4.9
	8				Box 2	LOSS 0.1
	9					UNACCL 0.1
	10					DEP/DEP 5.0
	11		ICK			PULL #2
	12		GREENISH GR., S. M. h		6.9	START 7:30
	13		SLK 0.15 GR. CL 5.2-			END 7:50
	14		5.3; M SPACED PTGS		Box 3	TIME 20 min UNACCL
	15		ALONG ANG SLK PLNS			DRL 20 min
487.7	16					RAW -
	17					REC 4.0
	18					LOSS 0
	19					DEP 9.1 T/DEP 9.0
	20		SS/SLs			PULL #3
	21		INTER bdd, CLS		10.3	START 8:04
	22		10N 16.7-16.9 BKN			END 8:22
	23		17.9-19.2 W/CLS LENS		Box 4	TIME 18 min
	24		18.2-18.5: CORE SPUN			DRL 18 min
	25		18.5-18.7 CLS LAM			RAW -
	26		18.7: CLS LENS @			REC 9.5
	27		19.6-19.8; 20.7-21.2		14.1	LOSS 0
	28					UNACCL 0
	29				Box 5	
	30					
	31				17.9	
	32				Box 6	T/DEP 18.5
	33					DEP 18.9
	34					PULL #4
	35					(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCK 1 DAM HOLE NO. L-12/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2	
GALLIPOLIS Lock + DAM				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e		g	
474.8	20		SS/SL		Box 6	PULL #4	
	21				21.1		
	22		CLS			START 8:32	
	23		S. m. h., m. - dk. gr.		Box 7	END 8:58	
	24		shy TR. OR OCC. CL			TIME 26 min	
	25		STGS bkn 21.9-22.3			DRL 26 min	
	26		23.5-24.2 & 25.6-26.6		25.0	RAN -	
	27		1 SS LAM 27.8-28.0			REL 8.6	
	28		1 0.9 LC BTWN 18.5'			LOSS 0.9	
	29		28.0 (PROB AT TOP)		Box 8	UNACC 0.9	
468.7	30		ICL			T/DEP 28	
	31		P. 6R, S. m. h., SLK		28.4	DEP 28.4	
	32		bkn 20.5 w/SLK			PULL #5	
	33		BTWN 28.0 & 37.7		Box 9	START 9:16	
	34					END 9:50	
	35					TIME 24 min	
	36				33.2	DRL 24 min	
	37					RAN -	
	38					REL 9.7	
	39					LOSS 0	
	40				Box 10	UNACC 0	
459.0	41				37.0	T/DEP 37.5	
	42				Box 11	DEP 37.9	
	43				37.7		
	44						

ENG FORM  
JAN 67 1836-A

GPO: 1965 OF-328-248

PROJECT  
GALLIPOLIS Lock + DAM

HOLE NO.  
L-12/1



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		6ALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4" X 5.5"	
3. DRILLING AGENCY		MONO L-12 STA 7+12.5		11. DAYUM FOR ELEVATION BROWN (FEET - INCHES)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		W. G. WAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		L-12/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		DOWELL NORRIS		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		496.4		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.4		16. DATE HOLE		STARTED 11/13/89 COMPLETED 11/13/89	
9. TOTAL DEPTH OF HOLE		458.0		17. ELEVATION TOP OF HOLE		496.4	
				18. TOTAL CORE RECOVERY FOR BORING		38.4	
				19. SIGNATURE OF INSPECTOR		JMP	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.4	1		SAND STONE		Box 1	PULL #1	
	2		M.-C.G., M.H. M.G.R			START 4:45	
	3		LEA. IT.G.R. 1.0-2.5' ANG			END 4:50	
	4		CONT			TIME 5 min	
	5					DRL 5 min	
	6					RAN 4.9	
	7					REC 4.9	
	8					LOSS 4.9	
	9					UNACC -	
491.2	10				Box 2	DEP 4.9	
	11		CLS			PULL #2	
	12		M.G.R., S-M.H. O.1			START 5:05	
	13		S.G.R.CH @ 5.2 S.G.R.CH			END 5:35	
	14		@ 6.0 : GRADING			TIME 40 min	
	15					DRL 40 min	
	16					RAN 9.9	
	17					REC 9.8	
	18					LOSS 1.0	
	19					UNACC 1.0	
488.0	20				Box 3		
	21		SANDSTONE				
	22		SLY, Fiq., M.H., M.G.R.				
	23		VE. SLY. 8.4-9.4 : HOR				
	24		SLY PT9 @ 11.6 : CRUSHED				
	25		CLS LEN 13.9-14.2 :				
	26		ANG (30°) PT9 @				
	27		15.8.				
	28						
	29						
	30						
480.6	31				Box 4		
	32						
	33						
	34						
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ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. L-12/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No. L-12/2	
PROJECT GALLIPOLIS Lock & Dam				INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
476.9	20		CLS				
	21		CLS		Box 6	- Pull #3	
	22		SLY, S.M.H., M.DK. GR.OCC. SLK., BKN NECK 20.8-21.1 f 21.8-23.5 GRAD'ING			LOSS 0 UNACC 0	
	23				22.5		
	24				Box 7	DEP 23.9	
	25					T/DEP 24.5	
470.5	26		ICL			Pull #4	
	27		GREEN ISH GR. - R. BR		25.9	START 7:20	
	28		S. - M.H. SLK. 1.9 L.C.			END 7:40 UNACC 0	
	29		BTWN 29.1 f 39.9		Box 8	TIME 20 min	
	30		: 1.0 L.C. BTWN			DRL 20 min	
	31		34.9 f 38.4			RAW 5.1	
	32					REC 4.6	
	33				29.1	LOSS 0	
	34					DEP/T/DEP 29.0	
	35					Pull #5	
	36				Box 9	START 8:35	
	37					END 9:30	
	38					TIME 55 min	
	39				32.7	DRL 25 min	
	40					RAW -	
	41					REC 3.9	
	42				Box 10	LOSS 1.9	
	43					UNACC 1.9	
	44					DEP/T/DEP 39.9	
	45					Pull #6	
	46					START 9:55	
	47					END 10:28	
	48					TIME 33 min	
	49					DRL 33 min	
	50				38.4	RAW 2.5	
458.0	51		BOTTOM HOLE			REC 2.5	
	52					LOSS - T/DEP 38.4	
	53					UNACC -	
	54					DEP 39.7	

ENG FORM 1836-A  
JUN 67

GPO: 1968 OF-228-243

PROJECT GALLIPOLIS Lock & Dam HOLE NO. L-12/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT GALLIPOLIS LOCK & DAM		ORD		ORN-CP		Hole No. L-13/1	
2. LOCATION (Coordinates or Station) MONO L-13 STA 7+07A		3. DRILLING AGENCY W. G. JAGUES		10. SIZE AND TYPE OF BIT 4 1/2" L		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) M. S. L	
4. HOLE NO. (As shown on drawing title and file number) L-13/1		5. NAME OF DRILLER DAVE HARPER		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN 0 497.0		14. TOTAL NUMBER CORE BOXES 11		15. ELEVATION GROUND WATER N/A	
8. DEPTH DRILLED INTO ROCK 37.9		9. TOTAL DEPTH OF HOLE 459.1		16. DATE HOLE 11/13/89		17. ELEVATION TOP OF HOLE 497.0	
				18. TOTAL CORE RECOVERY FOR BORING 37.6		19. SIGNATURE OF INSPECTOR JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.0	1		SANDSTONE LT.GR., H., M-C.GR. BKN			PULL #1 START 11:06 END 11:14 TIME 8min DRL 8min RAW -	
493.9	2		PN W/O.2 SPACE		1	REL 4.7 LOSS 0 UNAC 0 DEP 4.8 T/DEP 4.7	
491.6	3		CLS		3.5	PULL #2 START 11:25 END 11:40 TIME 15min DRL 15min RAW -	
	4		GR. S, SH, MOTTLED W/R-BR below 4.7, BKN 3.1-3.5, 4.2-4.7 mech		2	REL 9.0 LOSS 0.2 UNAC 0.2 T/DEPT DEP 8.9	
	5		SLS		7.4	PULL #3 START 12:35 END 1:00 TIME 25min DRL 25min RAW -	
	6		GR. S-M.H., S2, MOTTLED W/R-BR., OCC FRAC. W/		3	REL 9.7 LOSS 0 UNAC 0	
	7		SLX 5.9-5.9, SCULPLY BKN		4	PULL #4 START 1:00 END 1:10 TIME 10min DRL 10min RAW -	
	8		W/O.2 LC. 7.9-8.9, ANGLE		5	REL 18.3 DEP 18.9 T/DEP 18.6	
	9		PN 45° W/SLK 9.1-9.9		6	(CONT)	
	10		GRADATIONALLY, INTREBLY		(CONT)	(CONT)	
	11		W/1 U2.FGR SS 10.7-13.6				
	12		14.6-, CLAY COATED PN				
	13		15.5 + 15.6				
481.9	14		SANDSTONE				
	15		LT.GR., M-H. M-FGR.				
	16		OCC SL3 FRAG 19.2-21.0				
	17		SH SCAM 15.0-15.1, CAL				
	18		Cem. below 21.0				
	19		(CONT)				
	20						

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-13/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			497.0		L-13/1	
6ALLIPOLIS LOCK & DAM			INSTALLATION		SHEET 2	
			ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV. ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE		6	PULL #4
	21					START 1:10
	22				24.8	END 1:36
479.3						TIME 26 min
	23		SLS			DEL 26 min
	24		90, S-M.H., sh, scucely		7	RAN -
	25		BEN 27.0-27.3, 27.5-27.6,			REC 9.2
	26		27.9-28.0		25.5	LOSS 0.2
	27					UNACC 0.2
469.0					8	
	28		ICL			77 DEP 28.0
	29		R-BR., S, clayey, occ.		29.0	DEP 28.9
	30		mottled, w/gr-gr, gr,			PULL #5
	31		NUM FRC, w/shk		9	START 1:50
	32		dk, gr ABOVE 30.0			END 2:20
	33		scucely BEN 28.7-29.0, 29.9-		32.7	TIME 30 min
	34		29.6, 30.4-30.5, 30.8-30.1			DEL 30 min
	35		33.4-33.6, 34.7-34.9, 37.3		10	RAN -
	36		37.6			REC 9.6
459.4					36.6	LOSS 0
	37		RO + 10m HOLE		11	UNACC 0
	38				37.6	T/DEP 37.6
	39					DEP 37.9
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A (NR 1210-1-1801)

GPO 1980 OF - 528-905

PROJECT 6ALLIPOLIS LOCK & DAM HOLE NO. L-13/1

DRILLING LOG		DIVISION <b>ORD</b>		INSTALLATION <b>ORH-CD</b>		Hole No. <b>L-13/2</b> SHEET <b>1</b> OF 2 SHEETS	
1. PROJECT <b>GALLI POLIS LOCK &amp; DAM</b>				10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MDND STA 6+69.8</b>				11. DATUM FOR ELEVATION SHOWN (FIRM or B.M.) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACOBS</b>				12. MANUFACTURER'S DESIGNATION OF DRILL <b>B. 57 - MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>L-13/2</b>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>		UNDISTURBED <b>N/A</b>	
5. NAME OF DRILLER <b>DOWELL NORRIS</b>				14. TOTAL NUMBER CORE BOXES <b>11</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0 496.3</b>				16. DATE HOLE STARTED <b>11/13/89</b> COMPLETED <b>11/16/89</b>			
8. DEPTH DRILLED INTO ROCK <b>38.5</b>				17. ELEVATION TOP OF HOLE <b>496.3</b>			
9. TOTAL DEPTH OF HOLE <b>457.8</b>				18. TOTAL CORE RECOVERY FOR BORING <b>37.7'</b>			
				19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.3	1		SANDSTONE LT. GR., H., M.-C. GR.			PULL #1 START 10:55 END 11:05 TIME 10 min DRL 10 min RAN 9.5 REC 9.4 LOSS 0.1 UNACQ 0.1 TIDEP 4.5	
491.3	2		CLLS GR., S., SH, S. UCLY BK 5.6-5.8, ANG 1 PM, 45° SLE, 6.2-6.4		1		
489.2	3		SLLS GR., S.-M. H., granulation w/ sh @ TOP TO SQ BOTTOM BEN 8.1-8.3		2	DEP 7.9	
483.4	4		SANDSTONE GR., M.-H., URF TO FGR HIGH ANG FRA 13.3-13.8, BEN W/ ANG PN 15.6-15.8 SL SCAM 16.5-16.6		3	PULL #2 START 7:30 END 8:03 TIME 33 min DRL 33 min RAN — REC 10.1 LOSS 0 UNACQ 0	
477.4	5		SLLS GR., M.-H. SC		4	PULL #3 START 8:30 END 8:41 TIME 11 min DRL 11 min RAN — REC 9.3 LOSS 0 UNACQ 0	
476.3	6				5	TIDEP 19.6 DEP 19.9	
	7				6	DEP 18.9 TIDEP 17.1	
	8				(CONT)	PULL #4 (CONT)	

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PROJECT **GALLI POLIS LOCK & DAM** HOLE NO. **L-13/2**

PROJECT	HOLE NO.
GALLIPOLIS LOCKDOWN	L-13/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT GALLI POLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4 1/2" X 5 1/2"			
2. LOCATION (Coordinate or Station) MOND L-14 STA 6159B				11. DATUM FOR ELEVATION SHOWN (FEET or METER) M.S.L.			
3. DRILLING AGENCY W. B. JABUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-14/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER STEVE FREY				14. TOTAL NUMBER CORE BOXES 10		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE 11/13/89	
7. THICKNESS OF OVERBURDEN 0 497.4				17. ELEVATION TOP OF HOLE 497.4		18. TOTAL CORE RECOVERY FOR BORING 37.5	
8. DEPTH DRILLED INTO ROCK 37.5				19. SIGNATURE OF INSPECTOR JMD		19. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE 459.9							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.4	1		SANDSTONE m.-c.g., m.h., m.g.r. UE BKN. 0.0-2.7 w/o. L.C.		Box 1	PULL #1 START 3:59 END 4:15 TIME 16 min DEL 16 min RAN 5.0 REC 3.9 LOSS 1.0 UNACC 1.0	
494.7	2						
	3		ICL R.B.R., s.-m.h., BKN, SLK 0.1 gr. CL 2.7-2.8		3.6		
492.9	4						
	5		CLS s.-m.h., m.-dk.g.r., SLK - CLOSELY SPACED SLK PTGS		Box 2	DEP 5.0 T/DEP 9.9 PULL #2 START 4:29 END 4:40 TIME 11 min DEL 11 min RAN 4.0 REC 4.8 LOSS - UNACC -	
487.5	6						
	7						
	8						
	9						
	10				Box 3	DEP 9.0 T/DEP 9.7 PULL #3 START 4:49 END 5:17 TIME 28 min DEL 28 min RAN 8.8 REC 9.2 LOSS - UNACC -	
482.7	11		SS/SLT Inter Bedd. CLS 10A 11.1-11.8 PTGS AT CLS LEN 13.0-13.1 CORE SPUN CONTACT		11.1		
	12				Box 4		
	13						
	14						
	15		SLT s.-m.h., m.-dk.g.r. Occ SA.		15.2		
478.5	16				Box 5		
	17						
	18						
	19		SANDSTONE		18.9	DEP 18.6 T/DEP 18.9 PULL #4	
	20		(CONT)		Box 6	(CONT)	

ENG FORM 1836  
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PROJECT  
GALLI POLIS LOCK + DAM HOLE NO.  
L-14/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT		INSTALLATION				SHEET	
GALLIPOLI'S LOCK & DAM		ORH-LD				2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SANDSTONE		Box 6	PULL #4	
	21		SLY, A.G.M.H., M.G.R.			START 5:00	
	22					END 6:07	
	23					TIME 67 min	
473.6						DRL 67 min	
						RAN 10.1	
						REC 10.8	
	24		CLS		Box 7	LOSS -	
	25		M.-dk gr. S.-m. h m -			UNAC -	
	26		SPACED HOR SLY PRG. OCC.				
470.7			W/ +R.G.R. CL. COA.				
			GRADING				
	27		ICL		27.7		
	28		GREENISH GR. - R.BR.		Box 8	DEP 28.7	
	29		S.-M.H., SLK VE. BKN			T/DEP 29.7	
	30		27.0 - 29.7 BKN, R.BR.			PULL #5	
	31		31.0 - 37.5 w/ 0.7 LC.		Box 9	START 6:30	
	32					END 7:10	
	33					TIME 40 min	
	34					DRL 40 min	
	35					RAN 8.9	
	36					REC 7.1	
	37					LOSS -	
						UNAC -	
458.9			BOTTOM HOLE		Box 10		
	38				37.5	DEP 37.6 T/DEP 37.5	
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A  
JAN 67

GPO: 1965 OF-229-243

PROJECT GALLIPOLI'S LOCK & DAM  
HOLE NO. L-14/1



DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		DRH-CD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4 X 5/8"	
3. DRILLING AGENCY		W. G. JAGUES		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		L-14/2		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
5. NAME OF DRILLER		DOWELL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 493.3		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		38.0		16. DATE HOLE		STARTED 1/16/89	
9. TOTAL DEPTH OF HOLE		455.3		17. ELEVATION TOP OF HOLE		493.3	
				18. TOTAL CORE RECOVERY FOR BORING		38.0	
				19. SIGNATURE OF INSPECTOR		JMM	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
493.3	1		SANDSTONE			PULL #1	
	2		M.-C.G., M.H., M.G.R.		Box 1	START 4:20	
	3		BRN INTO APPROX 0.3 PIECES.			END 4:35	
	4					TIME 15 min	
	5					DRL 15 min	
	6					RAN 4.9	
	7					REC 4.7	
489.0	8				3.9	LOSS -	
	9		ICK			UNACC -	
	10		MOTTLED R-BR., S-M.H.,		Box 2	DEP 4.9 TIDEP 4.7	
	11		SLK VE.S.G.R. CL 4.3-5.0			PULL #2	
	12		VE BRN 5.0-6.4:			START 4:40	
486.9	13		GRADING			END 5:15	
	14					TIME 35 min	
	15		SLS/CLS		7.3	DRL 35 min	
	16		M.C.K.G.R., S.-M.H., OCC			RAN 9.9	
	17		SA DKN. ALONG AA, IAR		Box 3	REC 8.1	
	18		FRAL 7.1-8.0 W/IR			LOSS 0	
	19		G.R. CL. : SA ZONE 10.2			UNACC 0	
	20		-10.5: CLS. 10.5, 12.8:		10.9		
	21		SLS 12.8-17.4. SS LEN				
	22		17.4-17.4: SLI, SA. SL3				
	23		BELOW 17.4 BRN (max)		Box 4		
	24		22.0-23.0. SS LENS 22.4				
	25		-23.4; VE BRN W/PASS				
	26		1.1 L.C		14.2		
	27					DEP 14.8 TIDEP 14.7	
	28				Box 5	PULL #3	
	29					START 5:55	
	30					END 6:45	
	31					TIME 50 min	
	32					DRL 50 min	
	33				17.9	RAN 9.2	
	34				Box 6	REC 10.3	
	35					LOSS 0	
	36					UNACC 0	
	37				CONT	(CONT)	

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MAR 71 (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM

HOLE NO. L-14/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK DAM		4938 ORH-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20				Box 6	PULL #3
	21					
	22				24.6	
	23				Box 7	T/DEP 23.1
	24					DEP 24.0
467.9	25					PULL #4
	26		CLS		25.4	START 7:15
	27		S. - M. h. m. - dk. gr. sh. v			END 7:50
466.3	28		grading into			TIME 40 min
	29		ICL			DRL 40 min
	30		GREENISH GR - R. br.		Box 8	RAN 5.9
	31		S. M. h. med spaced			REC 5.8
	32		any slt ptgs. o.c			LOSS -
	33		LC BTWN. 30.0 & 38.0			UNACCL -
	34				32.0	DEP 30.0 T/DEP 29.9
	35					PULL #5
	36				Box 9	START 8:40
	37					END 9:40
	38					TIME 60 min
	39					DRL 30 min
	40				33.9	RAN 8.1
	41					REC 7.5
	42					LOSS 0.5
	43				Box 10	UNACCL 0.5
455.3	44		Bottom Hole		38.0	DEP + T/DEP 38.0

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-329-242

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO.  
L-14/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		ORD		ORH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		6ALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4x5 1/2"		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY		W. G. JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL		B.-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number)		L-15/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		STEVE FRY		14. TOTAL NUMBER CORE BOXES		11	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		0 497.7		16. DATE HOLE		STARTED 1/13/89 COMPLETED 1/16/89	
8. DEPTH DRILLED INTO ROCK		38.0		17. ELEVATION TOP OF HOLE		497.7	
9. TOTAL DEPTH OF HOLE		459.7		18. TOTAL CORE RECOVERY FOR BORING		38.3	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
497.7	1		SANDSTONE			PULL #1	
			M.H., M.-C.G., M.G.R. bkn into S. pieces (max 0.2)		Box 1	START 8:55 END 9:00 TIME 5min DRL 5min RAN 5. REC 3.9 LOSS - UNALL -	
495.6	2		ICL			DEP + T/DEP 3.9	
	3		GREENISH GR-R.B. S-M.B		3.6	PULL #2	
	4		SLK VE. S. GR 2.2-2.9 bkn			START 9:15 END 9:25 TIME 15min DRL 15min RAN 3.4 REC 4.1 LOSS - T/DEP 8.0 UNALL - DEP 8.4	
	5		5.0-5.5 VE.S., PAT GR. CL		Box 2	PULL #3	
	6		6.2-6.7			START 9:37 END 9:52 TIME 15min DRL 15min RAN 2.9 REC 4.1 LOSS - T/DEP UNALL -	
491.0	7		SLK		Box 3	PULL #4	
	8		M-DK. GR., SA, S-M.H.			START 10:06 END 10:28 TIME 22min DRL 22min RAN 6.4 REC 4.0 LOSS 1.4 UNALL 1.4	
	9		HA, O., IRR, IT. 71-75			DEP 17.7 T/DEP 17.5	
	10		M. SPACED HOR. SHY		Box 4	PULL #5	
	11		PTG.			START 10:45 END 10:58 TIME 13min (CONT)	
487.2	12		CLS		Box 5	(CONT)	
	13		SLY. S.-MA, M.-DK.				
	14		GR VE. bkn (Prob mech)				
	15		10.7-13.7 W/1.4 L.C.		Box 6		
484.0	16		SLK/SS				
	17		Interbedd: SLK-SA, M				
	18		DK. GR., M.H. SS.-SLY.				
	19		Pig. 1 M.G.R. M.H.				
	20		HOR. PTG. @ 18.5-18.6 bkn				
			SS. 20 (mech) 18.6-18.7				
			SS. 20. INCREASING				
			width bkn. W/CORE				
			SPINS 17.5-17.9 HOR				
			PTGS @ 18.5, 19.0				
			19.2 SS. 19.2-21.0				
			(CONT)				

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT 6ALLIPOLIS LOCK & DAM HOLE NO. L-15/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK / DAM						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
476.7	20		SLT/SS		Box 6	DRL 13 min
	21		Inter bckl.		21.1	RAN 3.3 T/DEP 21
	22		SS. / CLS.		Box 7	REC 5.4
	23		VE bkn. CLS 21.3-21.5			LOSS —
	24		! 21.9-22.4 : S.G.R.C.L.			UNACC —
	25		COA PTG @ 22.9			DEP 22.9
	26		CLOSELY SPACED PTGS			PULL #6
			b/w N SS/CLS (MAY -			START 11:11
			O.B) 22.9-26.6			END 11:34
476.1	27		ICL		24.9	TIME 23 min
	28		GREENISH g.r. - R. br,		Box 8	DRL 23 min
	29		SLK. S.M.H. bkn			RAN 7.5
	30		27.5-29.3 w/o.4 L.C.			REC 4.7
	31		bkn 29.3-32.7 w/o.8			LOSS —
	32		L.C bkn to bottom			UNACC —
	33		OF HOLE			DEPT T/DEP 27.5
	34				28.0	PULL #7
	35					START 7:35 RAN —
	36					END 7:48 REC 1.3
	37					TIME 13 min LOSS 0.4
	38				Box 9	DRL 13 min UNACC 0.4
	39					DEP 29.4 T/DEP 29.4
	40					PULL #8
	41					START 8:03
	42					END 8:18
	43					TIME 15 min
	44				31.8	DRL 15 min
						RAN —
					Box 10	REC 7.6 T/DEP 32.7
						LOSS 0.8
						UNACC 0.8 DEP 32.1
						PULL #9
						START 8:30
					33.9	END 8:55
						TIME 25 min
					Box 11	DRL 25 min
						RAN —
						REC 5.6 T/DEP 37.9
459.4	38		BOTTOM HOLE		38.3	LOSS 0
	39					UNACC 0 DEP 38.8
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67

GPO: 1969 OF-328-243

PROJECT GALLIPOLIS LOCK / DAM HOLE NO. L-15/1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1 OF 2 SHEETS	
1. PROJECT GALLI POLIS LOCK + DAM				10. SIZE AND TYPE OF BIT 4" X 5.5"			
2. LOCATION (Coordinates or Station) MONO L-15 STA 5173B				11. DAYUM FOR ELEVATION SHOWN (TBM = 100)			
3. DRILLING AGENCY W. G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-15/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		UNDISTURBED	
5. NAME OF DRILLER DOWELL NORRIS				14. TOTAL NUMBER CORE BOXES 11		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DES. FROM VERT.				16. DATE HOLE 11/16/89		STARTED 11/17/89	
7. THICKNESS OF OVERBURDEN @ 497.2				17. ELEVATION TOP OF HOLE 497.2			
8. DEPTH DRILLED INTO ROCK 376				18. TOTAL CORE RECOVERY FOR BORING 376			
9. TOTAL DEPTH OF HOLE 459.6				19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.2	1		SANDSTONE m.-c.g., m.h., m.g.r bkn into sm seg mends irr, ANG CONTACT		Box 1	PULL #1 START 7:05 END 10:45 TIME 20 min DRL 20 min RAN 4.9 REC 4.9	
493.4	2				3.9	LOSS 0 UNACC 0 DEP+T/DCP 4.9	
492.3	3		CLAY s.-m.h., m.-dk. gr., wea vr. s 3.8-4.9				
	4		ICL ICLs GREENISH-GR-B-BR SLX, s.m.h. bkn. 4.9-6.9		Box 2	PULL #2 START 10:35 END 11:30 TIME 55 min DRL 55 min RAN — REC — LOSS — UNACC — T/DEP 10.1	
488.8	5				7.4		
	6						
	7						
	8						
	9		SLs SA, s.m.h., m.-dk. gr IRR PTg @ 10.0 GRADING SLy @ 12.2 hoe. PTgs @ 13.4 & 14.4		Box 3		
	10				11.1		
	11						
	12						
	13				Box 4		
	14						
482.1	15				14.8	DEP 14.9	
	16		SANDSTONE SLy, fig., m.h., m.g.r HOR. PTg (mech) @ 16.7' VERT FRAC @ 17.9-18.2' 0.1 c.k. gr. CLS LEN 18.2-18.3 HOR PTg ALONG SLy LAM. @ 19.1' IRR, 0.1 (CONT)		Box 5	PULL #3 START 7:10 END 7:34 TIME 24 min DRL 24 min RAN — REC 4.9 LOSS 0 UNACC 0 DEP+T/DCP 20.0	
	17				18.3		
	18				Box 6		
	19				(CONT)		
	20						

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT: GALLI POLIS LOCK + DAM  
HOLE NO. L-15/2

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
GALLIPOLIS LOCK & DAM				ORH-CD		2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
476.9	20		SANDSTONE SA. CLS LENS @ 19.7 AB W/TRACE OF CEUSING CMOVEMENT		Box 6	PULL #4	
	21						
	22		CLS/SLK		21.9	START 7:50	
	23		S. - m.h. m - dk. gr. sly			END 8:22	
	24		CLOSELY SPACED HOR			TIME 32 min	
	25		PTGS @ 21.9-22.9		Box 7	DRL 32 min	
	26		1/2 24.4-24.6			RAN -	
	27		grading U.F. sly			REC 9.4	
	28		@ 25.5			LOSS 0.6	
	29				25.4	UNACC 0.6	
469.8	27				Box 8		
	28		ICL				
	29		R. - br. S. m. h.		28.9		
	30		SLK U.F. BKN (mech)			T/DEP 29.6	
	31		28.9-30.0 w/0.6 L.C			DEP 30.0	
	32		BKN 30.0-37.6		Box 9	PULL #5	
	33		w/1.7 L.C			START 8:45	
	34				32.9	END 10:03	
	35					TIME 18 min	
	36					DRL 18 min	
	37					RAN	
	38				Box 10	REC 6.9	
	39					LOSS 0.7	
	40					UNACC 0.7	
457.6	37		BOTTOM HOLE		36.4		
	38				37.6	T/DEP 37.6	
	39					DEP 38.1	
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A  
JUN 67

GPO 1969 OF-318-243

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
L-15/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>L-16/1</u>	
		<u>ORD</u>		<u>OPH-CD</u>		SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLI POLIS LOCK &amp; DAM</u>				10. SIZE AND TYPE OF BIT <u>4x5 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MONO L-16 STA 5+63.8</u>				11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W.C. JACOBS</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>R-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-16/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>DAVE HAPPER</u>				14. TOTAL NUMBER CORE BOXES <u>11</u>		UNDISTURBED <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER <u>N/A</u>		16. DATE HOLE STARTED <u>11/16/89</u> COMPLETED <u>11/16/89</u>	
7. THICKNESS OF OVERBURDEN <u>0 497.0</u>				17. ELEVATION TOP OF HOLE <u>497.0</u>		18. TOTAL CORE RECOVERY FOR BORING <u>37.1</u>	
8. DEPTH DRILLED INTO ROCK <u>37.9</u>				19. SIGNATURE OF INSPECTOR <u>JMO</u>		3	
9. TOTAL DEPTH OF HOLE <u>459.1</u>							

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE GR. M. C. GR. BKN 0.0- 0.5, 1.3-1.5			PULL #1 START 9:40 END 9:54 TIME 14 min DRL 14 min RAN - REC 5.0 LOSS 0 UNACC 0 DEP 5.0 TIDEP 4.0
495.0	2		ICL CLY, R. & B., S, MCHD, W/GRT GNR OCC PN W/SLK, SEVERAL BKN 3.4, 3.7, CLS, GR. 2.0-2.2		1	
493.3	3		CLS GR. S. SH.		3.7	
492.0	4					
	5		SLT GR, S, M-H, SA INTERM		2	PULL #2 START 10:01 END 10:18 TIME 17 min DRL 17 min RAN - UNACC 0 REC 3.7 LOSS 0 TIDEP + DEP 9.3 PULL #3
	6		W/ U.E.F. GR SS, BKN		7.2	
	7		MECH 5.0-5.1, MECH 15.6			
	8		15.9, ANG. PN. 30°		3	
	9		6.2-6.3, SH below 21.0		10.9	PULL #4 START 10:23 END 10:45 TIME 22 min DRL 22 min RAN - REC 2.8 LOSS 0 UNACC 0 TIDEP 15.8 PULL #5
	10		U.E.F. GR SS. 19.0-15.6, 17.7		4	
	11		-19.9, 19.9-20.4, CAL 19.7			
	12		19.9, BKN, PN. @ spacing		13.9	
	13		0.2 below 21.6 w/bcc			
	14		CLAY COATING, CLAY SCUM		5	
	15		.05 @ 23.9			
	16				6	PULL #5 START 11:30 END 11:42 TIME 12 min DRL 12 min RAN - UNACC 0 REC 4.0 LOSS 0 TIDEP 19.9
	17				(CONT)	
	18					
	19					
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLI POLIS LOCK & DAM HOLE NO. L-16/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-LD		L-16/1		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #5
	21				21.0	DEP 20.8
	22					PULL #6
	23				7	START 12:30
	24					END 1:12
	25					TIME 92 min
	26					DRL 92 min
						RAN -
						REC 8.4
					24.7	LOSS 0.3
						UNACC 0.3
470.2	27		ICL		8	
	28		R. br., s, clay, num.		28.1	
	29		FRAC. W. SLK, dgr			T/DEP 28.6
	30		ABOVE 30.0, severely bkn			DEP 28.9
	31		27.6 - 27.8, mech 28.4 - 28.6			PULL #7
	32		31.0 - 31.2, mech 32.0 - 32.3		9	START 1:27
	33		32.5 - 32.8, mech 34.7 - 37.1			END 1:48
	34					TIME 21 min
	35					DRL 21 min
	36					RAN -
					32.0	REL 3.0
						LOSS 0.9
						UNACC 0.9
	37		Bottom Hole		10	PULL #8
459.9						START 1:58
	38					END 2:20
	39				35.5	TIME 22 min
	40					DRL 22 min
	41				11	RAN -
	42					REC 5.1
	43				37.1	LOSS 1.0
	44					UNACC 0
						DEP 37.9

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

L-16/1



DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS		
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>			10. SIZE AND TYPE OF BIT <b>4" X 5 1/4"</b>			
2. LOCATION (Coordinate or Station) <b>MDNA L-16 STA 5+25.8</b>			11. DATUM FOR ELEVATION SHOWN (FEET = METER) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACQUES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>L-16/2</b>			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>			
5. NAME OF DRILLER <b>DAVID HARPER</b>			14. TOTAL NUMBER CORE BOXES <b>11</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>0 496.8</b>			16. DATE HOLE STARTED <b>11/7/87</b> COMPLETED <b>11/7/89</b>			
8. DEPTH DRILLED INTO ROCK <b>36.9</b>			17. ELEVATION TOP OF HOLE <b>496.8</b>			
9. TOTAL DEPTH OF HOLE <b>459.9</b>			18. TOTAL CORE RECOVERY FOR BORING <b>36.9</b>			
			19. SIGNATURE OF INSPECTOR <b>YMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE M.C.G., m.h. m.g.R. cl. sp. clay 3) PTGS 0.0 - 1.8' 45° ANG		Box 1	PULL #1 START 8:35 END 8:55 TIME 20 min DRL 20 min RAN - REC 4.5 LOSS 0 UNACC 0
494.3	2		CONTACT			
	3		ICL Mottled R. GR., S. - m.h.		3.8	
492.3	4		SLK			T/DEP 4.5 DEP 5.0
	5		CLS M. dk. gr., S. m.h. occ			PULL #2
	6		SLK 0.4 LC (MECH)		Box 2	START 9:05 END 9:25 TIME 20 min UNACC 0.4
	7		4.5-4.9 g radiating sky @ 6.1		7.3	DRL 20 min RAN - REC 4.2 LOSS 0.4
487.7	8				Box 3	DEP/T/DEP 9.1
	9		SS/SLK Interbedded SS. - fig., sky m.h., m.g.R. SLK -			PULL #3
	10		M-dk. gr., S. - m.h.		10.8	START 9:35 END 10:08 TIME 33 min
	11		25°, O.J.T. 13.6 - 14.2 in 5' 20.		Box 4	DRL 33 min RAN - REC 9.0 LOSS 0.2 UNACC 0.2
	12					
	13					
	14				14.6	
481.7	15		CLS M-dk. gr., S. - m.h. occ		Box 5	
	16		sky PTs sky w/occ			T/DEP 18.3
	17		gr. cl. LEN CL COA PTG @ 15.8 - 16.1 - 16.7		18.3	DEP 18.9
	18		w/10.2 LC sky PTG @ 17.6; closely spaced, hor PTGS (MAX 0.6)		Box 6	PULL #4
	19		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK + DAM** HOLE NO. **L-16/2**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS Lock Dam		ORH-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS (cont)		Box 6	PULL #4
	21		18.3-25.7: SLY 25.7-27.3		21.1	START 10:25
	22					END 11:25
	23					TIME 1 hr
	24					DEL 1 hr
	25				Box 7	RAN -
	26					REC 9.0
	27					LOSS 0
	28					UNAC 0
468.9	29		ICL		25.9	
	30		MOTTLED - R. GR, SLK		Box 8	
	31		S. - m.h. bkn			T/DEP 27.3
	32		0.3 L.C. btwn 27.3!		29.3	DEP 27.9
	33		32.9		Box 9	PULL #5
	34					START 11:36
	35					END 12:05
	36					TIME 29 min
	37					DRL 29 min
	38					RAN -
	39					REC 5.3
	40				32.9	LOSS 0.3 T/DEP 32.9
	41					UNAC 0.3
	42				Box 10	DEP 32.9
	43					PULL #6
	44					START 12:45
459.9	45		Bottom HOLE		36.5	END 1:05
	46				Box 11	TIME 20 min
	47					DRL 20 min
	48					RAN -
	49				36.9	REC 40 T/DEP 36.9
	50					LOSS 0
	51					UNAC 0 DEP 37.9

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-225-243

PROJECT HOLE NO.  
GALLIPOLIS Lock Dam L-16/2

DRILLING LOG		DIVISION	INSTALLATION		SHEET	
1. PROJECT <b>GALLIPOLIS LOCK + DAM</b>		<b>ORD</b>	<b>OPH-LD</b>		<b>OF 2 SHEETS</b>	
2. LOCATION (Coordinate or Station) <b>MANO L-17 STA 5+15.8</b>		10. SIZE AND TYPE OF BIT <b>4 1/2" X 1/2"</b>				
3. DRILLING AGENCY <b>W. B. JARVIS</b>		11. DATUM FOR ELEVATION SHOWN (FSL = MSL) <b>M.S.L.</b>				
4. HOLE NO. (As shown on drawing title and file number) <b>L-17/1</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>				
5. NAME OF DRILLER <b>DAVID HARDER / STEVE FRY</b>		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <b>10</b>				
7. THICKNESS OF OVERBURDEN <b>0 496.9</b>		15. ELEVATION GROUND WATER <b>N/A</b>				
8. DEPTH DRILLED INTO ROCK <b>37.2</b>		16. DATE HOLE STARTED <b>1/16/89</b> COMPLETED <b>1/16/89</b>				
9. TOTAL DEPTH OF HOLE <b>459.7</b>		17. ELEVATION TOP OF HOLE <b>496.9</b>				
		18. TOTAL CORE RECOVERY FOR BORING <b>37.2</b>				
		19. SIGNATURE OF INSPECTOR <b>JMD</b>				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.9	1		SANDSTONE M.-G.G., m.h., m.g.r. sm. PIECES (MAX 0.3)		Box 1	PULL #1 START 2:45 END 2:55 TIME 10 min DRL 10 min RAN - REL 3.5 LOSS 0 T/DEP 4.0 UNACL 0 DEP 5.0
494.2	2					
	3		ICL M.G.R.-R.B.R., S.M.H., SLK VE. S.G.R. CH. 2.7-2.9; VE BKN 3.5-7.3		Box 2	PULL #2 START 3:00 END 3:15 TIME 15 min DRL 15 min RAN - REL 4.9 LOSS 0 UNACL 0 DEP/TIDEP 8.4
	4					
	5					
	6					
	7					
489.6	8		SLK SA, m.-dk.gr, S.M.H., shy		Box 3	PULL #3 START 3:45 END 4:15 TIME 30 min DRL 30 min RAN - REL 7.7 LOSS 1.1 UNACL 1.1
	9					
	10					
486.5	11		CLS/SS Interbedded ss. to 12.9- 13.5 ve bkn CLS 13.5- 15.4 w/1/1 (?) L.C.		Box 4	
	12					
	13					
	14					
	15					
481.5	16		SLK SA, S.-m.h., m.-dk.gr med spaced hor PTGS		Box 5	TIDEP 16.1
	17					
	18					
478.9	19		SANDSTONE shy, fig, m.h., m.g.r. 0.1 L.C. btwn 18.0 & 27.2 Prob 18.1-18.1 (BKN) angle contact		Box 6	PULL #4
	20				CONT	(CONT)

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.  
MAR 71 (TRANSLUCENT)

PROJECT **GALLIPOLIS LOCK + DAM** HOLE NO. **L-17/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLI'S LOCK 1 DAM		ORH-CD		Z		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	PULL #4
	21		SLY M-DK GR, S.M.H.			START 4:33
	22		PTG SLY MED SPACES			END 5:00
	23		PTGS (MAY 1.0 PIECES)		22.8	TIME 25 min
	24				Box 7	DRL 25 min
	25					RAN 11.9
	26					REC 9.1
	27					LOSS 0.1
469.7	27					UNAC 0.1
	28		ICL		Box 8	T/DEP 27.2
	29		R. BR., S-M.H., VE DKN			DEP 28.0
	30		SLK 27.2-35.9 W/O			PULL #5
	31		0.7 L.C.		29.9	START 5:25
	32					END 6:10
	33					TIME 45 min
	34				Box 9	DRL 45 min
	35					RAN 8.0
	36					REC 8.7
	37					LOSS 0.7
	38				33.7	UNAC 0.7
	39				Box 10	T/DEP 35.9
	40					DEP 36.0
	41					START 7:15
	42					END 7:30
	43					TIME 15 min
459.7	37		BOTTOM HOLE		37.2	DRL 15 min
	38					RAN 2.2
	39					REC 1.3
	40					LOSS 0
	41					UNAC 0
	42					T/DEP 37.2
	43					DEP 38.2
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1968 O7-328-243

PROJECT GALLIPOLI'S LOCK 1 DAM  
HOLE NO. L-17/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. L-17/2	
PROJECT		ORD		CRH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT BARKIPOLIS LOCK DAM				10. SIZE AND TYPE OF BNT 4X5 1/2			
2. LOCATION (Coordinate or Station) MOND L-17 STA 4185B				11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W. G. JAGUES				12. MANUFACTURER'S DESIGNATION OF DRILL B. - 37 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-17/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER DOWELL NORRIS				14. TOTAL NUMBER CORE BOXES		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN 486.6				16. DATE HOLE		16. DATE HOLE	
8. DEPTH DRILLED INTO ROCK 37.3				17. ELEVATION TOP OF HOLE		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 459.3				18. TOTAL CORE RECOVERY FOR BORING 37.3		18. TOTAL CORE RECOVERY FOR BORING 37.3	
				19. SIGNATURE OF INSPECTOR		19. SIGNATURE OF INSPECTOR	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.6	1		SANDSTONE			PULL #1	
	2		M.-C.G., M.A., M.G.R., THIN			START 8:43	
	3		M. bdd			END 9:16	
499.2	4					TIME 33 min	
494.0	5		CL			DEL 33 min	
	6		GR. S. PAT			RAN 4.1	
	7		CLS			REC 4.1	
	8		S.-M.A., M. T. GR S. to 46			LOSS 0	
	9		1.6 KN 3.8-4.6' S. G.R. &			UNAC 0 TIDE 2.1	
	10		FLD. PT 9 @ 7.0: VE 6 KN			PULL #2	
	11		7.8-8.9 W/CORE 37 IN @			START 10:19	
	12		8.4: VE. S. 10.7-11.5 W/P 2			END 10:58	
495.1	13		TRANS 20.			TIME 39 min	
494.4	14		11.5-12.2 (CBKN)			DEL 18 min	
	15		SANDSTONE			RAN -	
	16		SLY F.G., M.A., M.G.R			REC 3.7	
	17		ANG. SMOOTH CONTACT			LOSS 0	
482.2	18		CLS			UNAC 0 TIDE 2.8	
	19		S.-M.A., M. DK. GR.			PULL #3	
	20		Interbed w/ m-dk. gr			START 11:05	
			SL. M. S. PACE 400,			END 11:30	
			CL 802 PTOS hvy CL.			TIME 25 min	
			(CONT)			DEL 25 min	
						PULL #4	
						START 8:20	
						END 9:20	
						TIME 1 HR	
						DEL 1 HR	
						RAN -	
						REC 1.3	
						LOSS 0.2 UNAC 0.2	
						PULL #5	
						START 9:30	
						END 10:40	
						TIME 1 HR 10 min	
						DEL 1 HR 10 min	
						RAN -	
						REC 7.9	
						LOSS 0	
						UNAC 0 TIDE 13.0	
						DEPAS	
						PULL #6	
						(CONT)	

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PROJECT BARKIPOLIS LOCK DAM HOLE NO. L-17/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
6ALLIPOLIS LOCK & DAM			496.6 ORH-CD		L-17/2	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL#6
	21				6	START 10:50
	22		COQ. PTs @ 15.0-15.4		21.7	END 12:04
	23		W/SLK ANG PTs @ 5.7			TIME 1hr 14min
	24		15.8, 16.7: SS. LENS			DRL 1hr 14min
	25		19.7-20.8: M, SPALCED		7	REC 10.2
	26		HOL. PTs 20.8-28.4			LOSS 8
	27				25.5	UNALL 8
468.2	28				8	
	29		ICL		29.3	DEP 29.6
	30		L. GR, S.M. N. 15L			PULL#7
	31		BEN 4.2 L.C. BTWN 29.6		9	START 12:40
	32		37.3			END 14:45
	33				32.9	TIME 2hrs 5min
	34					DRL 2hrs 5min
	35					PHN - T/DEP 32.7
	36					REC 3.5
	37					LOSS 4.2
455.3	38		Bottom: HOLE		10	UNALL 4.2
	39				37.3	DEP+T/DEP 39.3
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1988 OF-628-603

PROJECT

6ALLIPOLIS LOCK & DAM

HOLE NO.

L-17/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
1. PROJECT		OED		ORH-CD		1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		Gallipolis Lock Dam		10. SIZE AND TYPE OF BIT		4" X 5 1/2"	
3. DRILLING AGENCY		W.G. JACOBS		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)		M-S.L.	
4. HOLE NO. (As shown on drawing title and file number)		L-18/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-53 MBBLE	
5. NAME OF DRILLER		STEVE FRY		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		14. TOTAL NUMBER CORE BOXES		10	
7. THICKNESS OF OVERBURDEN		0 496.6		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		39.6		16. DATE HOLE		11/16/89	
9. TOTAL DEPTH OF HOLE		496.0		17. ELEVATION TOP OF HOLE		496.6	
				18. TOTAL CORE RECOVERY FOR BORING		39.6	
				19. SIGNATURE OF INSPECTOR		LMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.6	1		SANDSTONE		Box 1	Pull #1	
	2		M.C.G., m.h., gr. STA. BR BKN W/O.4 LCC (mech)			START 8:25	
			0.2 S.G.R. CL. 2.5-2.7			END 8:40	
499.1	3		CLS			TIME 15min	
	4		S-m.h., m.-dk.gr, OCC SLK GRADING. SKY W/			DRL 15min	
	5		depth 25° ANG. CONTACT W/GR. CL. COA			RAN 5.1	
490.0	6				3.5	REC 4.2	
	7		CLS			LOSS 0.4	
	8		S. m.h., m.-dk.gr, OCC-SHY		Box 2	UNACC 0.4 T/DEP 4.6	
	9					DEP 4.5	
486.2	10					Pull #2	
	11					START 8:47	
						END 8:59	
	12		SS / CLS			TIME 12min	
	13		Inter bed: SS. - fig., m.h.			DRL 12min	
	14		M.G.R. CLS. S. m.h. - m-dk		Box 3	RAN 5.1	
	15		GR 0.5 LC (Problem rock)			REC 5.0	
	16		btwn 9.6 & 11.4; SS - 11.4			LOSS -	
	17		-12.6; V.S. CLS / CL 12.6			UNACC -	
	18		-12.9; CLS 12.9-13.1;			T/DEP 9.6	
	19		SS. - 13.1-13.5; CLS 13.5			DEP 10.0	
	20		14.6 w/poss 0.2 L.C.;			Pull #3	
			SS 14.6-15.2; CLS / SLS			START 9:07	
			15.2-17.1 w/V. BKN			END 9:21	
			20. @ 16.6-17.1-		11.1	TIME 14min	
			Sly-SS. 17.1-20.4:			DRL 14min	
					Box 4	RAN 4.3	
						REC 3.9	
						LOSS .5	
						UNACC .5	
						T/DEP 13.9	
						DEP 14.3	
					13.0	Pull #4	
						START 9:31	
					Box 5	END 9:47	
						TIME 16min	
						DRL 16min	
						RAN 5.0	
						REC 5.3	
						LOSS .2	
					18.5	UNACC .2	
					Box 6	DEP 19.3	
						T/DEP 19.2	
						Pull #5	
						(CONT)	

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(TRANSLUCENT)

PROJECT GALLIPOLIS Lock Dam HOLE NO. L-18/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 496.6	Hole No. L-18/1	
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION ORH-CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	20					PULL #5
	21		CLS S.-m.h., m.-dk.gr.		Box 6	START 10:00 END 10:13 TIME 13 min UNAC 0 DRL 13 min RAN 4.3
	22		PTS. sh. 0.1 L.C. btwn		22.1	REC 4.3
	23		20.4 + 23.7 (MECH)		Box 7	LOSS 0
	24		0.7 L.C.C(?) btwn 23.7!			DEP 23.7 T/DEP 23.6 PULL #6
	25		27.6 grading into		25.5	START 10:27 END 10:43 TIME 16 min DRL 16 min RAN 4.9 REC 3.1 LOSS 0.7 UNAC 0.7 DEP 28.5 T/DEP 29.0
489.0	26		ICL		Box 8	PULL #7
	27					START 11:05 END 11:15 UNAC 1.3 TIME 10 min DRL 10 min RAN 3.4 REC 3.1 LOSS 1.3 DEP 32.4 T/DEP 32.0
	28		ICL			PULL #8 T/DEP 32.0
	29		R. be-greenish		29.8	START 7:25 RAN 1.7 END 7:45 REC 1.7 TIME 20 min LOSS 0 DRL 20 min UNAC 0 DEP 33.3
	30		se., bkn; s.-m.h.			PULL #9
	31		SLK.		Box 9	START 8:00 END 8:12 TIME 12 min DRL 12 min RAN T/DEP 36.9 REC 2.9 LOS 0.3 UNAC 0.3
	32		0.3 L.C. btwn 27.6!			DEP 39.3
	33		32.0. 0.3 L.C. btwn			
	34		32.0 L.C. btwn 32.0			
	35		! 39.6			
	36					
	37					
	38					
	39					
457.0	40		BOTTOM HOLE		39.6	
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JUN 67

GPO: 1969 OF-325-245

PROJECT  
GALLIPOLIS LOCK DAM

HOLE NO.  
L-18/1



DRILLING LOG		DIVISION		INSTALLATION		Hole No. L-18/2	
PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT		GALLI DOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT		4 1/2"	
2. LOCATION (Coordinate or Station)		MONO L-18 STA 4+40.8		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		M.S.L.	
3. DRILLING AGENCY		W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number)		L-18/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		DOWELL MORRIS		14. TOTAL NUMBER CORE BOXES		11	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		496.47		16. DATE HOLE		STARTED 1/27/69 COMPLETED 1/30/69	
8. DEPTH DRILLED INTO ROCK		38.5		17. ELEVATION TOP OF HOLE		496.47	
9. TOTAL DEPTH OF HOLE		457.97		18. TOTAL CORE RECOVERY FOR BORING		38.5'	
				19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.47	1		SANDSTONE LT.GR., M-H., M-C.GR. FLAGGY Bd BLENDS 1.3 SPACING FC STAINED 0.0-0.7		1	PULL #1 START 4:29 END 4:40 TIME 16 min DRL 16 min RAN - REC 1.3 LOSS 0.7 UNACL 0.7	
493.77	2					PULL #2 START 4:47 END 5:00 TIME 10 min DRL 10 min RAN REC 3.7 LOSS 0 TIDCP 4.9	
	3		CLS GR, S., SH, CLAYCY @ TOP TO SLT @ BOTTOM		3.6		
	4					UNACL 0	
	5						
490.77	6		SLT GR, S-MH, SA, SCUR-ELY BEN MECH 5.7-6.9, 14.2 14.6, 15.0-15.4, 17.7-18.1 CLAYCY 6.9-7.4, 13.3-13.6 CLS .GR. S. SH, 9.2-9.8		2	PULL #3 START 5:29 END 6:00 TIME 31 min DRL 31 min RAN 4.1 REC 4.1 LOSS 0 UNACL 0 TIDCP + DCP 9.9	
	7				6.9		
	8						
	9				3		
	10						
	11				10.5	PULL #4 START 18.30 END 19.00 TIME 30 min DRL 30 min RAN 5.2 REC 5.2 LOSS 0 UNACL 0 TIDCP 19.9 DCP 19.7	
	12						
	13				4		
	14						
	15				19.3	UNACL 0	
	16						
	17				5	PULL #5 START 19.25 END 19.45 TIME 20 min DRL 20 min RAN 5.3 REC 5.3 LOSS 0 UNACL 0 TIDCP 19.9 DCP 19.8	
478.37	18				17.9		
	19		SANDSTONE GR M-H F. - UCF, GR, SLT (CONT)		6		
	20				CONST	UNACL 0 TIDCP 19.9 DCP 19.8	

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PROJECT GALLI DOLIS LOCK + DAM HOLE NO. L-18/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM		02H-CD		L-18/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
475.87	20		SANDSTONE		6	PULL #6
	21		SLT		21.3	START 21:00
	22		GR, S-M.H., SA, clayey			END 21:20
	23		23.8-25.6		7	TIME 20min
	24					DEL 20min
	25					RAN 4.5
	26					REC 4.5
	27					LOSS 0
	28				25.1	UNACCL 0 DEP 29.8
468.37	28		CLS		8	PULL #7
467.17	29		GR, S, SA.			START 21:30
	30					END 22:00
	31					TIME 30min
	32					DEL 30min
	33					RAN 5.6
	34				28.9	REC 5.6
	35					LOSS 0
	36					UNACCL 0 DEP 29.7
	37				9	PULL #8
	38					START 22:35
	39					END 23:15
	40					TIME 40min
	41					DEL 40min
	42					RAN 4.9
	43				33.5	REC 4.9
	44					LOSS 0
	45					UNACCL 0 DEP 34.6
459.27	37				10	PULL #9
	38					START 7:45
	39					END 8:09
	40					TIME 24min
	41				37.2	DEL 24min
	42				11	RAN 3.9
	43					REC 3.9
	44				38.5	LOSS 0 DEP 39.5
	45					UNACCL 0
	46					
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ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT GALLIPOLIS LOCK & DAM, HOLE NO. L-18/2

DRILLING LOG		DIVISION ORD	INSTALLATION ORH-CD	Hole No. <b>L-19/1</b> SHEET 1 OF 2 SHEETS		
1. PROJECT <b>GALLIPOLIS Lock + DAM</b>			10. SIZE AND TYPE OF BIT <b>4 1/2"</b>			
2. LOCATION (Coordinates or Station) <b>MONO L-19 STA 42308</b>			11. DATUM FOR ELEVATION SHOWN (FEET or M) <b>M.S.L.</b>			
3. DRILLING AGENCY <b>W. G. JACQUES</b>			12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>			
4. HOLE NO. (As shown on drawing title and file number) <b>L-19/1</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b> DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>			
5. NAME OF DRILLER <b>STEVE FRY</b>			14. TOTAL NUMBER CORE BOXES <b>9</b>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <b>N/A</b>			
7. THICKNESS OF OVERBURDEN <b>496.6</b>			16. DATE HOLE <b>11/26/89</b> STARTED <b>11/26/89</b> COMPLETED <b>11/26/89</b>			
8. DEPTH DRILLED INTO ROCK <b>37.9</b>			17. ELEVATION TOP OF HOLE <b>496.6</b>			
9. TOTAL DEPTH OF HOLE <b>458.7</b>			18. TOTAL CORE RECOVERY FOR BORING <b>36.6'</b>			
			19. SIGNATURE OF INSPECTOR <b>JMD</b>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of conditioning, etc., if significant) g
496.6	1		SANDSTONE LT. GR. M-H. - N, M-GR.			PULL #1 START 5:33 END 5:40 TIME 7min DRL 7min RAW 4.9 REC 4.9 LOSS 0 UNAC 0 T/D 0.0
493.2	2		PLASSY GL BKN PN 0.1		1	
	3		SPACING 0.0-1.1			
	4		CLS GR, S, SA,		39	
	5					
491.2	6		CLS GR. M-H. - S, SA		2	PULL #2 START 5:55 END 6:10 TIME 15min DRL 15min RAW - REC 3.6 LOSS 0.9 UNAC 0.9 T/D 0.9 DOP 9.9
	7					
	8					
	9					
	10				3	
486.3	11		CLS/CLS GR, S, SA, w/ BKN PN 0.1			PULL #3 START 6:22 END 6:52 TIME 30min DRL 30min RAW - REC 8.5 LOSS 0 UNAC 0
	12		SPACING 10.3-12.1		12.0	
	13		CLS GR, M-S.H. SA			
482.6	14				4	
	15		CLS/CLS SA, interbed w/CLS, GR, S, SA			
	16		w/ BKN PN 14.0-16.5 0.1		157	
	17		SPACING			
	18				5	
	19					T/D 0.0 17.9
	20					DOP 19.9
			(CONT)			(CONT)
						PULL #4

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PROJECT **GALLIPOLIS Lock + DAM** HOLE NO. **L-19/1**

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM		ORH-LD		496.6		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SKS/LS		5	
	21				20.9	PULL #4
	22					START 7:07
	23					END 7:31
	24					TIME 24 min
	25					DRL 24 min
	26					RAN 9.3
	27				23.9	REC 8.8
469.4						LOSS 0.5
						UNAC 0.5
	28		ICL			T/DEP 27.2
	29		R. BR, S-MH, OCC			DEP 27.5
	30		mottled w/SLK, GR-gr.			PULL #5
	31		GR, OCC SLK, SH		28.6	START 7:51
	32		SCURRY BKN 28.6-30.1			END 8:22
	33		33.1-33.5			TIME 31 min
	34					DRL 31 min
	35					RAN 9.4
	36				34.9	REC 6.7
460.0						LOSS 2.7
	37		Bottom HOLE			UNAC 2.7
	38				36.6	DEP 36.6
	39					DEP 37.9
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1980 OF - 626 - 803

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-19/1

DRILLING LOG		Division ORD		INSTALLATION OEN-CD		Hole No. L-19/2 SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4Y55"			
2. LOCATION (Coordinate or Station) MONO L-19 STA 3+90.8				11. DATUM FOR ELEVATION BROWN (FIRM or IMB) M.S.L.			
3. DRILLING AGENCY W. G. JACQUES				12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-19/2				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		DISTURBED N/A	
5. NAME OF DRILLER DOWELL NORRIS				14. TOTAL NUMBER CORE BOXES 11		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 1/30/89 COMPLETED 1/30/89	
7. THICKNESS OF OVERBURDEN 496.3				17. ELEVATION TOP OF HOLE 496.3			
8. DEPTH DRILLED INTO ROCK 38.3				18. TOTAL CORE RECOVERY FOR BORING 38.3'			
9. TOTAL DEPTH OF HOLE 458.0				19. SIGNATURE OF INSPECTOR LMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.3	1		SANDSTONE m.-c.g., m.h., m.g.r. thin bdd. bkn 0.0-2.1 w/1.0 L.C.			PULL #1 START 8:10 RAN - END 9:22 REC 1.1 TIME 72 min LOSS 1.0 DEL 72 min UNAC 1.0	
493.6	2				Box 1	T/DEP + DEP 2.1	
493.3	3		CL-G.R. S. FAT			PULL #2	
	4		SLs sa, s.-m.h., m.-dk.g. w/sm. ss. incl.		4.3	START 12:57 END 1:10 TIME 13 min DEL 13 min UNAC 0	
	5		GRADING INTO			RAN -	
	6				Box 2	REC 4.6 LOSS 0	
489.6	7		CLS			T/DEP + DEP 4.7	
	8		SLY, s.-m.h., m.-dk.g.		8.0	PULL #3	
	9		SL 1, sly sa - 11.0			START 1:15 END 2:00 TIME 45 min	
	10		SLs/SS Interbed		Box 3	DEL 45 min RAN -	
	11					REC 5.2 LOSS 0 UNAC 0	
	12				11.5	T/DEP + DEP 11.9	
	13					PULL #4	
477.2	14				Box 4	START 2:20 END 2:30 TIME 10 min	
	15		SLs sa, s.-m.h., m.-dk.g. IRP, URT, q. FRAC			DEL 10 min RAN -	
	16		14.5-15.0 sly ss. 16.6 -18.2 U.E. 5 g.r. CL		15.3	REC 4.4 LOSS 0.3 UNAC 0.3	
	17		19.6-19.8		Box 5	T/DEP + DEP 16.6	
	18					PULL #5	
	19				18.8	START 3:00 END 3:20 TIME 20 min	
476.8	20		CLS (CONT)		Box 6	DEL 20 min RAN -	
					CONT	(CONT)	

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PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
L-19/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.3		Hole No. L-19/L	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION OEH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #5 REC 5.1 UNACCD LOSS 0 T/DEP + DEP 21.4
	21		S-m.h, m.-dkgr., sh			
	22		W/SLK on pgs		22.9	PULL #6 START 4:10 END 4:25 TIME 15min DRL 15min UNACCD RAN 4.2 REC 4.2 LOSS 0 T/DE 25.6 DEP 26.6
	23		VE. BRK W/SLK 23.1		Box 7	
	24		23.8 25.3-26.6			
	25					
	26				26.1	
468.0	27				Box 8	PULL #7 START 5:05 END 5:25 TIME 20min DRL 20min RAN 5.9 REC 4.9 LOSS 1.0 UNACCD T/DEP + DEP 31.5
	28		ICK			
	29		P. BR, S.-m.h, bkn, sh		29.9	
	30					
	31				Box 9	PULL #8 START 5:45 END 6:10 TIME 25min DRL 25min RAN 5.7 REC 5.7 LOSS 0 UNACCD DEP + T/DEP 37.2
	32					
	33				33.2	
	34				Box 10	PULL #9 START 6:45 END 7:05 TIME 20min UNACCD DRL 20min RAN - REC 1.1 DEP 91.7
	35					
	36				36.9	
	37				Box 11	
458.0	38		Bottom HOLE		38.3	
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A  
JAN 67

(RR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT  
GALLIPOLIS LOCK & DAM

HOLE NO.  
L-19/L

DRILLING LOG		DIVISION ORD	INSTALLATION OPEN-CD	Hole No. L-20/1 SHEET 1 OF 2 SHEETS
1. PROJECT Gallipolis Lock & Dam			10. SIZE AND TYPE OF BIT 4.15 1/2"	
2. LOCATION (Coordinates or Station) MOND L-20 STA 3+80.8			11. DAYUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.	
3. DRILLING AGENCY W. & J. AGUES			12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-20/1			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A	
5. NAME OF DRILLER STEVE FRY			14. TOTAL NUMBER CORE BOXES 0	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø 496.8			16. DATE HOLE STARTED 1/26/89 COMPLETED 1/27/89	
8. DEPTH DRILLED INTO ROCK 40.6			17. ELEVATION TOP OF HOLE 496.8	
9. TOTAL DEPTH OF HOLE 456.2			18. TOTAL CORE RECOVERY FOR BORING 38.0	
			19. SIGNATURE OF INSPECTOR LMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE m.-c.g., m.h., m.g.e		Box 1	PULL #1 START 9:40 END 9:53 TIME 13 min DRL 13 min RAN - REC 9.7 LOSS Ø UNACL Ø
491.7	5		CL GR. S. FAT		Box 2	PULL #2 START 9:58 END 10:12 TIME 14 min DRL 14 min RAN 5.3 REC 5.1 LOSS 0.2 UNACL 0.2
491.5	6		CLS/SLs		Box 3	PULL #3 START 10:20 END 10:48 TIME 28 min DRL 28 min RAN 10.1 REC 10.1 LOSS Ø UNACL Ø
	7		Interbedd, shly s.m.h.			
	8		m.-dk.gr, shly w/tr.gr			
	9		CL cor c/w HOR PTGS			
	10		0.2 LC b/w 5.3' 10.0			
	11		med- closely spaced			
	12		HOR PTGS throughout			
	13					
	14					
	15					
	16					
	17					
478.8	18		SANDSTONE shly. f.g., m.h., m.g.e (cont)		Box 6	
	19					
	20					

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PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
L-20/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET	
6ALLIPOLIS LOCK DAM				496.8 ORH-CD		L-20/1 2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SANDSTONE		Box 6	TIDE P 20.1	
475.3	21					PULL #4	
	22		CLS		22.1	START 10:56	
	23		S.-m.h, m-dk.gr,			END 11:32	
	24		shy w/GRCL LENSES		Box	TIME 36min	
	25		f LAM CLN (MECH)		7	DEL 36min	
	26		24.1-26.6 w/1.7LC:			RAN 9.7	
	27		CORE SPUN @ 26.6:400		7	REL 9.7	
	28		GR. CL CO2 PT 25-27.5-			LOSS Ø	
467.0	29		29.2			UNAC Ø	
	30		ICL		Box 8	DEPT/DEP 29.8	
	31		Rbr, s.-m.h, CLN		30.9	PULL #5	
	32		SLK			START 7:50	
	33					END 8:25	
	34				Box	TIME 35min	
	35				9	DEL 35min	
	36					RAN -	
	37				9	REL 3.3	
458.8	38		BOTTOM HOLE			LOSS Ø TIDE P 33.1	
	39					UNAC Ø	
	40				34.4	DEP 33.9	
	41					PULL #5	
	42				Box	START 9:00	
	43				10	END 9:25	
	44					TIME 25min	
						DEL 25min	
						RAN -	
						REL 4.9	
					38.0	LOSS Ø TIDE P 38.0	
						UNAC Ø	
						DEP 40.6	

ENG FORM 1836-A (RR 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT 6ALLIPOLIS LOCK DAM HOLE NO. L-20/1



DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>L-20/2</u>	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>		<u>ORH-CD</u>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <u>MONO L-20 STA 3+40A</u>				10. SIZE AND TYPE OF BIT <u>4X5 1/2</u>		11. DATUM FOR ELEVATION SHOWN (Type or Name) <u>M.S.L</u>	
3. DRILLING AGENCY <u>W. G. JACOBS</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-20/2</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <u>N/A</u>		DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>STEVE FRY</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE <u>1/27/89</u>		STARTED <u>1/27/89</u> COMPLETED <u>1/27/89</u>	
7. THICKNESS OF OVERBURDEN <u>0</u> <u>496.7</u>				17. ELEVATION TOP OF HOLE <u>496.7</u>			
8. DEPTH DRILLED INTO ROCK <u>37.7</u>				18. TOTAL CORE RECOVERY FOR BORING <u>37.7</u>		%	
9. TOTAL DEPTH OF HOLE <u>459.0</u>				19. SIGNATURE OF INSPECTOR <u>ZMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.7	1		SANDSTONE LT.GR. M-H, M-C.GR, FE			PULL #1 START 6:42 END 6:48 TIME 6 min DRL 6 min RAN - REC 4.7 LOSS 0.2 UNAC 0.2 DEP 50 T/DEP 4.9	
493.0	2		STAINED 0.0-2.0, SLIGHT to		1		
	3		med blk 0.0-2.0				
	4		CLS		3.8		
491.5	5		GR, S, SH, CLSCAM. 05 @ 37.41 BKN 3.7-3.8, 4.9-5.2				
	6		CLS		2	PULL #2 START 6:59 END 7:08 TIME 9 min DRL 9 min RAN - REC 3.6 LOSS 0.9 UNAC 0.9 DEP 9.9 T/DEP 8.8	
	7		PN 0.9 SPACING, OCC		7.5		
	8		inter bdd CLS, severely				
	9		bkn 7.5-7.6, 11.0-11.3		3		
	10		14.0-14.7, 15.1-15.3, 18.2-				
	11		18.8, CLS, S, GR, SH, 8.3-7.6, 11.3		11.3	PULL #3 START 7:22 END 7:45 TIME 23 min DRL 23 min RAN - REC 8.9 LOSS 1.0 UNAC 1.0 DEP 19.6 T/DEP 18.8	
	12		12.2, 13.5-18.0, SQ 15.5-16.7				
	13		bkn w/ ch coating 16.7		4		
	14		17.0				
	15				15.1		
	16						
	17				5		
	18						
477.5	19		SANDSTONE GR. M-H, V.F. - E.G.P. SET		18.8		
	20				6 (CONT)	PULL #4 DEP 19.6	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-20/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS LOCK + DAM		ORH-CD		2		
OF 2 SHEETS						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SANDSTONE			
475.3	21				6	PULL #4
	22		SLS			START 8:51
	23		9R, S, SH, BLN, PN. 0.3		22.6	END 9:23
	24		SPACING, BKN 21.6-21.7			TIME 32
	25		23.1-23.6, 26.5-27.8		7	DEL 32
	26					RAN -
	27					REC 10.3
	28				8	LOSS 0
468.3	29		ILL			UNAC 0
	30		A-BE, S, SH, NUM. SLS		29.9	T/DEP 29.1
	31		GRAY ABOVE 32.0			DEP 29.9
	32		BKN 29.7-31.0		9	PULL #5
	33		CLN, 37.5-35.3			START 9:41
	34					END 10:06
	35					TIME 25min
	36					DPL 25min
	37				33.5	RAN -
459.0	38					REC 8.4
	39					LOSS 0.2
	40				10	UNAC 0.7
	41					
	42					
	43					
	44					
			BOTTOM HOLE		37.7	T/DEP + DEP 37.7

ENG FORM 1836-A

(REV 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK + DAM

HOLE NO.

2-20/2

DRILLING LOG		DIVISION	INSTALLATION		Hole No. <u>L-211</u>
		<u>OPD</u>	<u>ORH-CD</u>		SHEET OF 2 SHEETS
1. PROJECT <u>GALLIPOLIS LOCK + DAM</u>			10. SIZE AND TYPE OF BIT <u>4X5 1/2</u>		
2. LOCATION (Coordinate or Station) <u>MONO L-21 STA 3430B</u>			11. DAY USE FOR ELEVATION SHOW (TSS = DEL) <u>M. S. L.</u>		
3. DRILLING AGENCY <u>W. G. JAMES</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>B. 53 MOBILE</u>		
4. HOLE NO. (As shown on drawing title and file number) <u>L-211</u>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
			DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>		
5. NAME OF DRILLER <u>DAVE HAPPER</u>			14. TOTAL NUMBER CORE BOXES <u>10</u>		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <u>N/A</u>		
7. THICKNESS OF OVERBURDEN <u>Ø 496.7</u>			16. DATE HOLE		
			STARTED <u>1/27/89</u> COMPLETED <u>1/27/89</u>		
8. DEPTH DRILLED INTO ROCK <u>379</u>			17. ELEVATION TOP OF HOLE <u>496.7</u>		
9. TOTAL DEPTH OF HOLE <u>458.8</u>			18. TOTAL CORE RECOVERY FOR BORING <u>57.9</u>		
			19. SIGNATURE OF INSPECTOR <u>LMD</u>		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SANDSTONE LTGR, M.H. -H, M-CGR, BKN PN, 2SPACING 0.0-2.0			PULL #1 START 10:00 END 10:13 TIME 13min DRL 13min RAN 9.5
493.6	2				1	
	3		SLS GR, M-H, SQ		3.4	REC 4.5 LOSS Ø UNACCL Ø TIDEP 4.5 DEPS. 0
492.2	4					
	5		SANDSTONE LTGR, M.H. -H, M-CGR, FE STAINER SURFACE		2	PULL #2 START 10:20 END 10:33 TIME 13min DRL 13min RAN -
489.4	6				7.1	
	7					
	8		SLS/CLS 70% SLS, 30% CLS, BKN		3	REC 3.7 TIDEP 8.5 LOSS Ø UNACCL Ø DEP 9.9
	9					
	10		PN 0.4 SPACING, SLS			
	11		GR, S-MH, SH, CLS		10.6	PULL #3 START 10:40 END 11:17 TIME 37min DRL 37min RAN -
	12		GR, S, SLS 18.1-20, 13.7-		4	REC 6.4 LOSS 4.0 UNACCL 1.0
	13		19.9, 15.9-16.2, CLS/CLM,			
	14		DS @ 7.3, SQ 9.5-10.2		14.3	
	15					
	16				5	TIDEP 15.6
	17					
	18					DEP 17.7
477.5	19				18.9	PULL #4 START 11:35
	20		SANDSTONE (CONT)		6 (CONT)	(CONT)

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PROJECT GALLIPOLIS LOCK + DAM HOLE NO. L-211

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2	
GALLIPOLIS Lock + DAM				ORH-CD		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
	20		SANDSTONE				
	21		gr, m.H., F-VE gr, high angle FRAC. 20.7-21.3		6	PULL #9 END 12:07 TIME 32min DEL 32min	
474.6	22				22.6	RAN -	
	23		SLS gr, s.-m.H., sh, BEN			REC 9.5 LOSS 0.3 UNACC 0.3	
	24		PNS 0.3 SPACING, BEN		7		
	25		mcch 25.2-25.9, 27.0-27.2			DEP + T/DEP 25.9	
	26				26.2	PULL #5	
	27					START 12:46 END 1:28 TIME 42min DEL 42min	
	28				8	RAN -	
467.7	29					REC 3.9 LOSS 1.3 UNACC 1.3	
	30		ICL		30.0		
	31		R.B.C. - s.-m.H., sh, OCC				
	32		SLY, OCC m.H. + sh, w		9	T/DEP 32.1	
	33		gr + gn. gr, gr ABOVE			DEP 32.9	
	34		33.0, SCURPLY BEN 32.0			PULL #6	
	35		32.1, 33.3-33.9, 33.9-34.1		34.7	START 1:40 END 2:10 TIME 30min DEL 30min	
	36		37.7-37.5		10	RAN -	
	37					REC 5.0 LOSS 0 UNACC 0	
458.8	38		ROTTON HOLE		37.7	T/DEP 37.7 DEP 37.7	
	39						
	40						
	41						
	42						
	43						
	44						

ENG FORM 1836-A (BR 1110-1-1801)

GPO 1980 OF - 628 - 503

PROJECT GALLIPOLIS Lock + DAM HOLE NO. 2-21/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. L-21/2	
1. PROJECT		ORD		ORH-6D		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		6 ALLIPIOLIS LOCK DAM		10. SIZE AND TYPE OF BIT 4X55"		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY		MONO L-21 STA 2+89.8		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
4. HOLE NO. (As shown on drawing title and file number)		L-21/2		B-53 MOBILE		DISTURBED UNDISTURBED	
5. NAME OF DRILLER		STEVE FRY		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		16. DATE HOLE		STARTED COMPLETED	
7. THICKNESS OF OVERBURDEN		0 996.2		17. ELEVATION TOP OF HOLE		496.2	
8. DEPTH DRILLED INTO ROCK		37.2		18. TOTAL CORE RECOVERY FOR BORING		37.2	
9. TOTAL DEPTH OF HOLE		459.0		19. SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
996.2	1		SANDSTONE			PULL #1	
	2		M.C.G., m.h., m.g.e			START 10:30	
	3					END 10:37	
	4		bkn to 2.0		Box 1	TIME 7min	
	5					DEL 7min	
496.0	6				3.8	RAW -	
	7					REC 5.2	
	8					LOSS 0.3	
	9					UNAC 0.3	
	10					DEP+TIDEP 5.0	
490.0	11		CL		Box 2	PULL #2	
	12		gr., s., fat			START 10:29	
	13					END 10:54	
	14				7.3	TIME 34min LOSS 0.3	
	15					DEL 34min UNAC 0.3	
	16					RAW -	
	17				Box 3	REC 4.6	
486.1	18					DEP-9.0	
	19					TIDEP 10.1	
	20				11.0	PULL #3	
	21					START 23:21	
	22					END 23:30	
	23				Box 4	TIME 9min	
482.7	24					DEL 9min	
	25					RAW 4.3	
	26					REC 3.9	
481.8	27				14.9	LOSS 0.9	
	28					UNAC 0.9	
	29				Box 5		
	30						
477.6	31				18.4	DEP+TIDEP 18.4	
	32				Box 6	PULL #4	
	33					START 7:50 RAW -	
	34					END 8:13 REC 5.2	
	35					TIME 23min LOSS 0.5	
	36					DEL 23min UNAC 0.5	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT 6 ALLIPIOLIS LOCK DAM HOLE NO. L-21/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK & DAM		496.2 ORH-LD		L-21/2		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.4	20		CLS		Box 4	PULL #4 T/O DEP 20.1 DEP 20.7
474.2	21		SANDSTONE		Box 6	PULL #5
	22		SHY, S.G. m.h., m.g.h.			
	23		CLS		Box 7	START 8:25 END 9:04 TIME 39 min DEL 39 min RAN - REC 9.0 LOSS 0.1 UNACC 0.1
	24		S. m.h., m.-dk.g.p. sh, w			
	25		G.R. CL - SE & COA PTGS			
	26				Box 8	
467.5	27					
	28					
	29		ICL		Box 9	T/O DEP 29.2 DEP 29.5 PULL #6 START 9:17 END 9:45 TIME 28 min DEL 28 min RAN - REC 8.0 LOSS 0 UNACC 0
	30		M.-dk.g.p. n. br, S. m.h.			
	31		IRP SLK PTGS TO 33.5			
	32		W/O. ILC BTWN 28.7 &			
	33		29.2 BECOMING R. BR			
	34		① 33.5			
	35					
	36					
459.0	37		BOTTOM HOLE		Box 10	T/O DEP 37.2 DEP 37.5
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-21/2

DRILLING LOG		DIVISION	INSTALLATION	Hole No.	SHEET	
1. PROJECT <b>GALLIPOLIS Lock + DAM</b>		<b>ORD</b>	<b>ORH-CD</b>	<b>L-22/1</b>	<b>1</b>	
2. LOCATION (Coordinate or Station) <b>MONO L-22 STA 2+79.8</b>		10. SIZE AND TYPE OF BIT <b>4x5 1/2</b>				
3. DRILLING AGENCY <b>W. B. JACQUES</b>		11. DAYUM FOR ELEVATION SHOW (FT or M) <b>M.S.L</b>				
4. HOLE NO. (As shown on drawing title and file number) <b>L-22/1</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 mobile</b>				
5. NAME OF DRILLER <b>STEVE FRY</b>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <b>10</b>				
7. THICKNESS OF OVERBURDEN <b>0 496.4</b>		15. ELEVATION GROUND WATER <b>N/A</b>				
8. DEPTH DRILLED INTO ROCK <b>40.2</b>		16. DATE HOLE STARTED <b>1/27/89</b> COMPLETED <b>1/27/89</b>				
9. TOTAL DEPTH OF HOLE <b>456.2</b>		17. ELEVATION TOP OF HOLE <b>496.4</b>				
		18. TOTAL CORE RECOVERY FOR BORING <b>39.7</b> %				
		19. SIGNATURE OF INSPECTOR <b>LMD</b>				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4	1		<b>SANDSTONE</b> LT. GR., M.H.-H M-CGR. occ thin clayey stringers FINE GRAINED 0.5-0.8 LT. FE. STAIN 3.0-3.8 + FLAGGY			<b>PULL #1</b> START 2:30 END 2:42 TIME 12min DRL 12min RAN 4.7 REC 4.7 LOSS 0 UNAC 0 T/DEPT 4.7 DEPT 5.0
491.7	5		<b>SLS</b> GR, S, SH, CLS 6.1-2.5 GR. S. SH.		2	<b>PULL #2</b> START 2:50 END 3:10 TIME 20min DRL 20min RAN 4.1 REC 3.4 LOSS 0.5 UNAC 0.5 T/DEPT 8.0 DEPT 9.0
488.8	8		<b>SANDSTONE</b> GR, M.H. 1 F.-VE.F. GR High ANG FAK 8.2-8.8		3	<b>PULL #3</b> START 3:51 END 4:05 TIME 19min DRL 19min RAN 5.9 REC 5.0 LOSS 0.9 UNAC 0.9 T/DEPT 19.2 DEPT 19.2
486.8	10		<b>SLS/CLS</b> inter bed. SLS. GR. M.H.-S, SH., 7.6-13.1 14.2-15.2-15.3-17.2 18.0-20.0, CLS GR. S. SL 13.1-19.2, 15.2-15.3, 17.2- 18.0-20.0-21.1, BLW 96- 9.8, 16.9-17.2 CL SPAN, .05 @ 19.0 + 14.1, .03 @ 20. + 20.3 (CONT)		4	<b>PULL #4</b> START 4:10 END 4:19 TIME 31min DRL 31min RAN - REC 9.2 LOSS 0.9 UNAC 0.9 CONT
	11				5	
	12				6	
	13				(CONT)	
	14					
	15					
	16					
	17					
	18					
	19					
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT **GALLIPOLIS Lock + DAM**

HOLE NO. **L-22/1**

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.4		Hole No. L-22/1	
PROJECT GALLIPOLIS LOCK+DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.3	20		SLSKLS .05 @ 21.0		6	PULL #4
	21					
	22		SANDSTONE LT. gr. - gr, m.H., v.c.f. - f.gr.		21.7	
	23		CAL. cem., below 23.6			
472.1	24				7	DEP 29.9 T/D 29.3
	25		CLS gr, s, sh bkn throughout			PULL #5
470.1	26				25.9	START 4.59
	27		ICK R. BR. m.H.-s, sh, oc			END 5:10
	28		mottled, w/gr + gn-gr		8	TIME 12 min
	29		occ SLK, gr + clayey			DRL 12 min
	30					PAN 9.5
	31		ABOVE 29.0, severely			REC 5.6
	32		bkn 28.2-32.9		27.5	LOSS 2.9
	33					UNACC 2.9
	34					DEP 32.6
	35				9	T/D 32.8
	36					PULL #6
	37					START 5.41
	38				35.8	END 6.12
	39					TIME 31 min
	40					DRL 31 min
	41				10	PAN 6.9
	42					REC 5.2
	43					LOSS 1.7
	44					UNACC 1.7
456.7	45		Bottom Hole		39.7	T/D 39.7
	46					DEP 40.2
	47					
	48					
	49					

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 828 - 603

PROJECT GALLIPOLIS LOCK+DAM L-22/1



DRILLING LOG		DIVISION	INSTALLATION	Hole No. <u>L-22/12</u>		
1. PROJECT <u>Gallipolis Lock &amp; Dam</u>		<u>ORD</u>	<u>ORH-CD</u>	SHEET <u>1</u> OF 2 SHEETS		
2. LOCATION (Coordinate or Station) <u>MOND L-22 STA 2+40.3</u>		10. SIZE AND TYPE OF BIT <u>1 1/2"</u>				
3. DRILLING AGENCY <u>W. G. JACOBS</u>		11. DATUM FOR ELEVATION SHOWN (FEET or MSL) <u>M.S.L.</u>				
4. HOLE NO. (As shown on drawing title and file number) <u>L-22/12</u>		12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>				
5. NAME OF DRILLER <u>STEVE FRY</u>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <u>N/A</u>				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES <u>10</u>				
7. THICKNESS OF OVERBURDEN <u>0 496.1</u>		15. ELEVATION GROUND WATER <u>N/A</u>				
8. DEPTH DRILLED INTO ROCK <u>37.3</u>		16. DATE HOLE STARTED <u>1/30/89</u> COMPLETED <u>1/30/89</u>				
9. TOTAL DEPTH OF HOLE <u>456.8</u>		17. ELEVATION TOP OF HOLE <u>496.1</u>				
		18. TOTAL CORE RECOVERY FOR BORING <u>39.3</u>				
		19. SIGNATURE OF INSPECTOR <u>JMN</u>				
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		SANDSTONE			PULL #1
	2		M-C.G., M.H., M.G.R		Box 1	START 2:36
	3		0.2 L.C. 4.3-4.5			END 2:47
	4					TIME 11min
	5					DRL 11min
	6					RAW -
	7				3.7	REC 4.6
496.0	8					LOSS 0.2
	9					UNACC 0.2
	10		SLS/CLS			TIDEP 4.8
	11		Interbedd, m-dk. gr,		Box 2	DEP 5.0
	12		S-m.h., sh. 0.4 LC.			PULL #2
	13		BTWN 7.3 & 8.2 (MCA)			START 2:58
	14					END 3:15
	15				7.3	TIME 17min
	16					DRL -
	17					RAW 5.0
	18					REC 0.4
	19				Box 3	LOSS 0.4
	20					UNACC DEP 9.6
	21					PULL #3
	22				11.2	START 3:52
	23					END 4:15
	24					TIME 13min
	25					DRL 13min
	26				Box 4	RAW 9.5
	27					REC 7.1
	28					LOSS 1.6
	29				19.8	UNACC 1.6
	30					
	31				Box 5	
	32					DEP 17.9
	33					TIDEP 17.2
	34					PULL #4
477.2	35					START 4:30
	36					END 5:05
	37				19.8	(CONT)
	38					
	39					
	40					
	41					
	42					
	43					
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	47					
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ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT Gallipolis Lock & Dam HOLE NO. L-22/12

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE		Hole No.	
PROJECT				INSTALLATION		SHEET 2 OF 2 SHEETS	
Gallipolis Lock & Dam				496.1		L-22/2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
475.3	20		IER, PTg @ 19.0		Box 6	PULL #	
	21		CLS			TIME 35min	
	22		S.-m.h., m.-dk.gr			DRL 35min	
	23		Closely spaced, hor p's			RAN 6.7	
472.8	23				23.3	REC 5.6	
	24		CL			LOSS 1.1	
	25		VE. S., R. br.			UNAC 1.1	
469.3	26				Box 7	T/DEP 23.3	
	27		SLs/CLS				
	28		Interbedd, S.-m.h., m.-dk.gr.		27.2	DEP 27.6	
	29				Box 8	PULL #5	
465.8	30					START 5:23	
	31		JCL		31.1	END 5:42	
	32		R. br., S.-m.h., br. w/strk			TIME 19min	
	33		0.4 LC 6TWN 34.7 f 39.3			DRL 19min	
	34					RAN -	
	35				Box 9	REC 11.4	
	36					LOSS -	
	37					UNAC -	
	38					T/DEP 33.2	
456.8	39				35.7	DEP 34.2	
	40		BOTTOM HOLE			PULL #6	
	41					START 6:54	
	42				Box 10	END 7:12	
	43					TIME 18min	
	44					DRL 18min	
						RAN -	
						REC 9.2	
						LOSS 0.4	
						UNAC 0.4	
					39.3	T/DEP 39.3	
						DEP 40.6	

ENG FORM  
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1836-A

(NR 1110-1-1801)

GPO 1968 OF - 622 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

L-22/2

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
PROJECT		OED		ORH-CD		L-23/1	
LOCATION (Coordinates or Station)		MONO L-23 STA 2+30.8		SIZE AND TYPE OF BIT		4 1/2"	
DRILLING AGENCY		W. G. JACOBS		DATE FOR ELEVATION SHOWN (FSM or MSL)		M.S.L.	
HOLE NO. (As shown on drawing title and file number)		L-23/1		MANUFACTURER'S DESIGNATION OF DRILL		B-53 MOBILE	
NAME OF DRILLER		STEVE FRY		TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		N/A	
DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		UNDISTURBED		N/A	
THICKNESS OF OVERBURDEN		0 495.9		TOTAL NUMBER CORE BOXES		10	
DEPTH DRILLED INTO ROCK		40.0		ELEVATION GROUND WATER		N/A	
TOTAL DEPTH OF HOLE		455.9		DATE HOLE		STARTED 1/31/89 COMPLETED 1/31/89	
				ELEVATION TOP OF HOLE		495.9	
				TOTAL CORE RECOVERY FOR BORING		39.3	
				SIGNATURE OF INSPECTOR		JMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
495.9	1		SANDSTONE			PULL #1	
	2		LTGR, M-H, M-CGR			START 5:50	
	3		BKN @ SURFACE 0.0-0.8			END 6:00	
	4		Fe STAIN 0.0-3.0			TIME 10 min	
455.7	5		CLS			DRL 10 min	
	6		LTGR, S, SH, BKN 5.0-55			RAN 4.7	
490.9	7		SANDSTONE			REL 4.7	
	8		GR, M-H, F-VEFGR			LOSS 0	
	9		SLS GR, M-H, SA. 6.0-6.7			UNAC 0 TIDEPAS	
	10		SH SCAM BKN 7.6-7.9			DEP 5.0	
487.2	11		CAL-CCM 6.8-7.9			PULL #2	
	12		SHS / CLS			START 6:12	
	13		70% SLS, 30% CLS,			END 6:20	
	14		GR, S-M-H, SH, FLASSY			TIME 8 min	
	15		BKS, PN., 0.25 (DRAIN)			DRL 8 min	
	16		OCC CL COATING ON PN			RAN 4.1	
	17		MOCK BKN 11.7-12.0, CL STAIN			REC 4.1 TIDEPB6	
	18		0.03 @ 15.2, 0.01 @ 12.6			LOSS 0	
	19		SA SIT Below 15.4			UNAC 0 DEP 10.0	
479.6	20		SANDSTONE			PULL #3	
	21		GR, M-H, F-VEFGR			START 6:46	
	22		SLS / CLS			END 6:55	
	23		70% SLS 30% CLS			TIME 9 min	
	24		GR, M-H, SHALY, FLASSY			DRL 9 min	
	25		0.03 @ 21.0			RAN 2.9	
	26		(CONT)			REC 2.5 DEP 13.5	
478.6	27		SANDSTONE			LOSS 0	
	28		GR, M-H, F-VEFGR			UNAC 0	
	29		SLS / CLS			PULL #4	
	30		70% SLS 30% CLS			START 7:21	
	31		GR, M-H, SHALY, FLASSY			END 7:36	
	32		0.03 @ 21.0			TIME 15 min	
	33		(CONT)			DRL 15 min	
	34		(CONT)			RAN 7.8	
	35		(CONT)			REC 6.2	
	36		(CONT)			LOSS 1.6	
	37		(CONT)			UNAC 1.6 TIDEP19.5	
	38		(CONT)			(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT 6 ALLIPOLIS LOCK & DAM HOLE NO. L-23/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE 495.9		Hole No. L-23/1	
PROJECT GALLIPOLIS Lock & Dam				INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	20		SLS/KLS			PULL #4	
	21				6	PULL #5	
	22					START 7:54	
	23					END 8:16	
	24				22.8	TIME 22 min	
471.9	24					DEL 22 min	
	25		JCL R-BR, S-M.H., SH, occ			RAN 8.7	
	26		SLK, GR ABOVE 29.7, R-BR		7	REC 7.6	
	27		Below 29.7, CL 29.0-28.2			LOSS 1.1	
	28		31.7-33.6, SH 28.7-31.7			UNACC 1.1	
	29		33.6-39.3, severely BKN			T/DFP 28.2	
	30		26.5-28.2, 28.8-29.3			DEP 29.4	
	31		30.6-31.1, 33.6-33.8			PULL #6	
	32				34.1	START 9:18	
	33					END 9:42	
	34					TIME 24 min	
	35					DEL 24 min	
	36					RAN 5.9	
	37					REL 5.0 UNACC 9	
	38					LOSS .4 T/DFP 33.6	
	39					PULL #7	
456.6	39		EG + CH. HOLE		35.0	START 10:06	
	40					END 10:18	
	41					TIME 12 min	
	42					DEL 12 min	
	43					RAN 5.7	
	44					REL 4.8	
						LOSS 0.9	
						UNACC 0.9	
					39.3	T/DFP 39.3	
						DEP 40.0	

ENG FORM 1836-A (NR 1110-1-1801)

GPO 1980 OF - 828 - 603

PROJECT GALLIPOLIS Lock & Dam

HOLE NO. L-23/1

Hole No. L-23/2

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>	<u>ORH-CD</u>	
2. LOCATION (Coordinate or Station) <u>MONO L-23 STA 1+85.8</u>				
3. DRILLING AGENCY <u>W.G. JACOBS</u>				
4. HOLE NO. (As shown on drawing title and file number) <u>L-23/2</u>				
5. NAME OF DRILLER <u>DAVE HARPER</u>				
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				
7. THICKNESS OF OVERBURDEN <u>496.6</u>				
8. DEPTH DRILLED INTO ROCK <u>38.6</u>				
9. TOTAL DEPTH OF HOLE <u>458.0</u>				
10. SIZE AND TYPE OF BIT <u>4.56"</u>				
11. DATUM FOR ELEVATION SHOWS (True or Red) <u>M.S.L.</u>				
12. MANUFACTURER'S DESIGNATION OF DRILL <u>B.-53 MOBILE</u>				
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED <u>N/A</u>	UNDISTURBED <u>N/A</u>	
14. TOTAL NUMBER CORE BOXES <u>10</u>				
15. ELEVATION GROUND WATER <u>N/A</u>				
16. DATE HOLE		STARTED <u>1/30/89</u>	COMPLETED <u>1/30/89</u>	
17. ELEVATION TOP OF HOLE <u>496.6</u>				
18. TOTAL CORE RECOVERY FOR BORING <u>38.6</u>				
19. SIGNATURE OF INSPECTOR <u>LMD</u>				

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE m.-c.g., m.h. STABR.			PULL #1 START 10:20 END 10:30 TIME 10 MIN DEL 10 MIN RAN - REC 4.6 LOSS 0.1
492.7	4		CL		3.8	UNACC 0.1 T/DEP 4.7 DEP 50
491.7	5		GR.S. FAT CL CLS/SLs Interbedd. s.-m.h., m.-dk.gr shy: closely spaced shy PTGS w/tra.gr. CL. COA 4.7. 734/0.7 LC (mbed)		Box 2	PULL #2 START 10:38 END 10:53 TIME 15 MIN DEL 15 MIN RAN - REC 7.2 LOSS 0.7 UNACC 0.7 T/DEP 9.4 DEP 9.4
489.3	7		SANDSTONE shy., dk. m.h., m.gr UE bkn 9.6-10.3		Box 3	PULL #3 START 11:04 END 11:39 TIME 34 MIN DEL 34 MIN RAN - REC 7.4 LOSS 0.4 UNACC 0.4
486.3	10		CLS/SLs Interbedd s.-m.h., m. dk.gr, occashy bkn w/tra.gr. CL. COA on horshy 13.0- 15.0 w/0.4 L.C. (mbed)		Box 4	
	11		bkn 23.4-25.4 w/ 0.9 L.C.		11.2	
	12				Box 5	
	13				13.0	
	14				Box 6	
	15				19.9	
	16				Box 7	
	17				19.9	
	18				Box 8	
	19				19.9	
	20				Box 9	
			(CONT)		(CONT)	

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-23/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET	
GALLIPOLIS LOCK/DAM			GRH-CD		1 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		C/S/S/S		Box 6	PULL #4
	21					START 12:20
	22					END 12:55
	23					TIME 35 min
	24				12.7	DRL 35 min
	25					RAW —
	26				Box 7	REL 8.5
						LOSS 0.9
						UNAC 0.9
469.8	26.8				26.8	TIDEP 26.8
	27		ICL			DEP 27.9
	28		R. 6L, S.-m.h., w/SLK		Box 8	PULL #5
	29		PTGS 0.3 L.C. btwn			START 1:07
	30		26.8 f 34.4			END 1:43
	31					TIME 36 min
	32				30.6	DRL 36 min
	33					RAW —
	34					REL 7.3
	35				Box 9	LOSS 0.3
	36					UNAC 0.3
	37					
	38				38.4	TIDEP 38.4
						DEP 34.9
	39		Bottom HOLE.			PULL #6
458.0	38.6				Box 10	START 1:55
	40					END 2:14
	41					TIME 19 min
	42					DRL 19 min
	43					RAW —
	44				38.6	REL 3.8
						LOSS 0.4
						UNAC 0.4
						TIDEP 38.6
						DEP 37.4

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF-628-603

PROJECT

GALLIPOLIS LOCK/DAM

HOLE NO.

1-23/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <u>L-29/1</u>	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		<u>ORD</u>		<u>ORH-CD</u>		Sheet 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) <u>MONO L-29 STA 1+75.3</u>				10. SIZE AND TYPE OF BIT <u>4 1/2"</u>		11. DATUM FOR ELEVATION SHOWN (TBM or BBL) <u>M.S.L.</u>	
3. DRILLING AGENCY <u>W. G. JACOBS</u>				12. MANUFACTURER'S DESIGNATION OF DRILL <u>R-53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-29/1</u>				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <u>N/A</u>		UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>STEVE FRY</u>				14. TOTAL NUMBER CORE BOXES <u>10</u>		15. ELEVATION GROUND WATER <u>N/A</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED <u>1/30/89</u> COMPLETED <u>1/30/89</u>			
7. THICKNESS OF OVERBURDEN <u>496.7</u>				17. ELEVATION TOP OF HOLE <u>496.7</u>			
8. DEPTH DRILLED INTO ROCK <u>39.9</u>				18. TOTAL CORE RECOVERY FOR BORING <u>37.9</u>			
9. TOTAL DEPTH OF HOLE <u>457.3</u>				19. SIGNATURE OF INSPECTOR <u>JMD</u>			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
496.7	1		SANDSTONE LTGR, MH-H, M-CGR			PULL #1 START 7:47 END 7:58 TIME 11min DRL 11min RAN 4.9 REC 4.9 LOSS 0 UNAC 0 DEP+T/DEP 4.9
	2		BKN, PN. 0.2 SPACING FLAG			
	3		0.0-2.8, few OCC clayey		1	
	4		STRINGERS + FLAG THROUGHOUT		3.8	
	5					
490.7	6		SANDSTONE			PULL #2 START 8:05 END 8:14 TIME 19min DRL 19min RAN 4.7 REC 4.3 LOSS 0.4 UNAC 0.9 DEP 9.0 T/DEP 9.6
	7		LTGR, -GR, MH, F-UEFGP		2	
	8		CLS, GR-S. 3A 6.0-6.9		7.4	
	9		SLT ABOVE 7.0', ANY PN W/CL COATING 460 (Joint)			
487.5	10		SLT		3	
	11		JP, S-MH, SH, ANY PN, 30° WISLK 7.9-10.0, 10.1-10.3		11.4	PULL #3 START 8:56 END 9:30 TIME 34min DRL 34min RAN 9.7 REC 8.7 LOSS 1.0 UNAC 1.0
485.0	12		CLS			
	13		GR, S, SH, severely BKN 12.9-12.7 W/LC.		4	
483.2	14		SLT		15.3	
	15		GR, S-MH, SH, BKN PN. 3 SPACING, severely BKN 14.2-15.1-15.3, CLS 16.6-17.0 GR, S, SH.			
	16					
479.7	17		SANDSTONE		5	
	18		GR, MH, F-UEFGP			
477.7	19		CL SCAM			
	20		SLT		19.7	DEP 19.5 T/DEP 19.3 PULL #4

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PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. L-29/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.7		Hole No. L-29/1	
PROJECT GALLIPOLIS LOCK+DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #4
	21		GR. S-MH, SH, BKN. PN.		6	START 9:40
	22		0.3 SPACING			END 10:10
						TIME 30 min
473.5	23					DEL 30 min
						RAN 10.0
	24		CLS		23.6	REC 9.7
	25		GR. S. SH, SEVERELY BKN			LOSS 0.3
			25.2-25.6		7	UNAC 0.3
470.6	26					
	27		ICL		27.3	
	28		L-BP, S-MH, OCC AN			
	29		PN W/ SLK, SH, OCC			
	30		MOTTLED W/ GR + GN GR.		8	DCP 29.2
	31		GR + CLAYEY ABOVE 27.3			TIDCP 29.3
	32		SEVERELY BKN 27.3-27.4		31.1	PULL #5
	33		28.2-29.3, 30.9-31.4			START 10:30
	34					END 11:12
	35					TIME 42 min
	36					DEL 42 min
	37				9	RAN 6.8
	38					REC 6.0
	39					LOSS 0.8
	40					UNAC 0.8
	41				34.9	
	42					
	43					
457.3	44		BOTTOM HOLE		39.9	DEPT TIDCP 36.1
	45					PULL #6
	46					START 23:30
	47					END 23:51
	48					TIME 21 min
	49					DRL 21 min
	50					RAN 3.3
	51					REC 3.3
	52					LOSS 0
	53					UNAC 0

ENG FORM 1836-A

(BR 1110-1-1801)

GPO 1986 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK+DAM

HOLE NO.

L-29/1



DRILLING LOG		DIVISION		INSTALLATION		Hole No. L-24/2	
PROJECT		ORP		ORP-10		SHEET 1 OF 2 SHEETS	
1. PROJECT		GALLIPOLIS Lock DAM		10. SIZE AND TYPE OF BIT		4 X 5.5"	
2. LOCATION (Coordinates or Station)		R10ND L-24 STA 1+40B		11. DAYTIME FOR ELEVATION SHOWN (YES or NO)		M.S.L.	
3. DRILLING AGENCY		W. G. JAMES		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number)		L-24/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
5. NAME OF DRILLER		DOWELL NORRIS		14. TOTAL NUMBER CORE BOXES		11	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		N/A	
7. THICKNESS OF OVERBURDEN		0 496.5		16. DATE HOLE		STARTED 1/30/87 COMPLETED 1/30/87	
8. DEPTH DRILLED INTO ROCK		40.3		17. ELEVATION TOP OF HOLE		496.5	
9. TOTAL DEPTH OF HOLE		456.2		18. TOTAL CORE RECOVERY FOR BORING		40.3	
				19. SIGNATURE OF INSPECTOR		TMD	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.5	1		SANDSTONE		Box 1	PULL #1+2	
	2		M.-C.G., m.h., m.gr			START 20:55	
	3					END 21:20	
	4					TIME 25min	
	5					DRL 25min	
	6					RAN 7.8	
493.0	7					REC 6.3	
	8		CLS		Box 2	LOSS 1.5	
	9		M.-dk.gr., s.-m.h., sh			UNACC 1.5	
	10		brn w/ tr.gr CL 5.5				
	11		ss. lens 5.2-5.5 UBRN				
	12		w/ tr.gr CL cor 1.5L.C				
488.5	13		5.4-7.8		Box 3	DEP 7.8	
	14		SANDSTONE			PULL #3	
	15		shy, f.g. s.-m.h., m.-dk gr grading into			START 21:45	
486.3	16					END 22:00	
	17					TIME 15min	
	18		CLS			DRL 15min	
	19		S.-m.h., m.-dk.gr w/			RAN 12.4	
	20		shs mode incls, tr			REC 4.5	
	21					LOSS 0.8	
	22		CL cor @ 10.2 brn 11.3			UNACC 1.1	
	23		11.7 w/ 0.1 L.C brn w/ sh			DEP 12.4	
	24		12.0-15.0 m.h. s.l.s. ss. @ 14.4		Box 4	PULL #4	
	25		14.6 ss lens 15.3-15.9			START 22:00	
	26		UC brn w/ sh 16.3-17.2			END 22:15	
479.3	27					TIME 15min	
	28		SANDSTONE			DRL 15min	
	29		shy, f.g. m.h., m.gr			RAN 17.6	
	30		HA. sh. uca, JT. 17.6-18.6			REC 5.2	
	31		gr. sh. cor, wear hor. ptg.			LOSS 0	
476.7	32		@ 18.4 uca, wear hor. ptg. 19.0		Box 5	UNACC 0	
	33		19.9 brn. CL cor hor			DEP 17.6	
	34					PULL #5	
	35					START 22:30	
	36					END 22:45	
	37					TIME 15min	
	38					(CONT)	

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PROJECT GALLIPOLIS LOCK DAM HOLE NO. L-24/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
GALLIPOLIS LOCK DAM		4965 ORH-CD		L-29/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		PT 9 @ 19.4:6 KN, TRANS		Box 6	PULL #9 DRL 15 min RAN 22.9 REC 5.3 UNACCD LOSS 0
	21		20 19.4-20.1		22.4	
	22		CLS/SLT			
	23		INTERBED, M.-DK. G.R.S.			
	24		M.H OCC SHY		Box 7	DEP 22.9 PULL #5 START 23:05 END 23:20 TIME 15 min DRL 15 min RAN 28.1 REC 5.2 LOSS 0 UNACCD
470.5	25					
	26					
	27		ICL		Box 8	DEP 28.1 PULL #6 START 7:40 END 7:55 TIME 15 min DRL 15 min RAN 32.6 REC 4.5 LOSS 0 UNACCD
	28		S-M., GR.-P.BE.			
	29		OCC 6 KN. W/SLT		Box 9	DEP 32.6 PULL #7 START 8:05 END 8:25 TIME 20 min DRL 20 min RAN 35.4 REC 2.8 LOSS 0 UNACCD
	30					
	31					
	32					
	33					
	34				Box 10	DEP 35.4 PULL #8 START 8:40 END 9:14 TIME 39 min DRL 39 min RAN 40.3 REC 4.9 LOSS 0 UNACCD
	35					
	36					
	37					
	38				Box 11	DEP 40.3
	39					
456.2	40		BOTTOM HOLE			
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(SR 1110-1-1801)

GPO 1980 OF - 628-503

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

L-29/2

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS		
1. PROJECT Gallipolis Lock & Dam		ORD	DRH-CD			
2. LOCATION (Coordinates or Station) MONO L-25 STA 1425B			10. SIZE AND TYPE OF BIT 4V5 1/2"			
3. DRILLING AGENCY W. G. JACOBS			11. DATE FOR ELEVATION SHOWN (FAM or REG) M.S.L.			
4. HOLE NO. (As shown on drawing title and file number) L-25/1			12. MANUFACTURER'S DESIGNATION OF DRILL B-53 mobile			
5. NAME OF DRILLER STEVE FRY			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A	DISTURBED N/A	UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES 11			
7. THICKNESS OF OVERBURDEN 0 496.6			15. ELEVATION GROUND WATER N/A			
8. DEPTH DRILLED INTO ROCK 39.5			16. DATE HOLE 1/31/89	STARTED 1/31/89	COMPLETED 1/31/89	
9. TOTAL DEPTH OF HOLE 457.1			17. ELEVATION TOP OF HOLE 496.6			
			18. TOTAL CORE RECOVERY FOR BORING 39.5			
			19. SIGNATURE OF INSPECTOR JMD			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant) g
496.6	1		SANDSTONE M.-C.G., M.H., M. GR, T Bdd. Closely spaced PTs w/0.1 L.C.			PULL #1 START 1:00 END 1:14 TIME 14min DRL 14min RAN - REC 9.2 LOSS 0.1 UNACC 0.1 T/DEP 9.3 DEP 9.0
494.7	2		ICL MOTTED R.B., S.-M.H. V.S. GR. CL. 1.9-2.9. 0.5 LC GRADING INTO CLS			
492.8	3		M.DK. GR., S.-M.H. bkn 4.3-5.1 w/0.1 L.C.			
491.5	4		CLS			
489.8	5		SLS M.DK. GR., S.-M.H. grading CLY-SA grading into			
487.7	6		SANDSTONE CLY, F.G., M.H., M. GR.			
486.6	7		SLS S.S.-M.H., M.-DK. GR., PTs SHY GRADING			
480.9	8		CLS/SLS SHY INTERBEDD., S.-M.H., M.-DK. GR., w/ thin GR. CL. SE: Closely. SPACED, HOR. PTs. w/ occ TR. GR. CL. COA. PLD. 0.3 L.C. b/w 10. f' 16.2			
479.6	9		SLS S.-M.H., M. GR. grading			
478.9	10		SANDSTONE SHY, F.G., M.H., M. GR TR. GR. CL. COA HOR CONTACT @ 17.0			
	11		SLS INTERBEDD w/CLS: (CONT)			
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.6		Hole No. L-25/1	
PROJECT Gallipolis Lock & DAM			INSTALLATION ORH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #4
	21		S.M. h., sh. mid. gr.		6	Time 36 min
	22		OCC, gr. cl. cor & fls			DRL 36 min
	23		HOR. PTG: moss. SLS		22.4	RAN -
	24		22.8-24.1: grading			REC 9.4
	25					LOSS 0
	26				7	UNACC 0
471.5	25					
	26		ICL			
	27		MOTTED - R. BR., S.M. h.		26.1	
	28		OKW. w/ SLK: R. BR.			T/DEP 27.1
	29		STARTING @ 29.0 1.2		8	DEP 27.4
	30		L.C. BTWN 27.1 & 36.8			PULL #5
	31				28.8	START 3:50
	32					END 4:32
	33					TIME 42 min
	34				9	DRL 42 min
	35					RAN 9.7
	36					REC 8.5
	37					LOSS 1.2
	38					UNACC 1.2
	39				33.5	
	40				10	
	41					DEP 36.7
	42					T/DEP 36.8
	43				37.8	PULL #6
	44					START 5:15
	45				11	END 5:32
	46					TIME 17 min
457.1	44		BOTTOM HOLE		39.5	DRL 17 min
	45					T/DEP 39.5
	46					DEP 39.7
	47					RAN 2.7
	48					REC 2.0
	49					LOSS 0.7
	50					UNACC 0.7

ENG FORM 1836-A

(RR 1110-1-1801)

GPO 1980 OF-528-503

PROJECT  
Gallipolis Lock & DAM

HOLE NO.  
L-25/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. L-25/2	
1. PROJECT GALLIPOLIS LOCK DAM		DRD		OBH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) MONO L-25 STA 1820A		10. SIZE AND TYPE OF BIT 4X5.5"		11. DATUM FOR ELEVATION SHOWN (TBM or BBL) M.S.L.			
3. DRILLING AGENCY W. G. TAC-85		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN N/A		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED N/A UNDISTURBED N/A	
4. HOLE NO. (As shown on drawing title and file number) L-25/2		14. TOTAL NUMBER CORE BOXES 10		15. ELEVATION GROUND WATER N/A			
5. NAME OF DRILLER STEVE FRY		16. DATE HOLE 1/3/89		16. DATE HOLE STARTED 1/3/89 COMPLETED 1/3/89			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE 496.4		18. TOTAL CORE RECOVERY FOR BORING 40.4		19. SIGNATURE OF INSPECTOR LMD	
7. THICKNESS OF OVERBURDEN 0 496.4		8. DEPTH DRILLED INTO ROCK 90.4		9. TOTAL DEPTH OF HOLE 456.0			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.4	1		SANDSTONE M.C.G, M.H., M.G.R. BKN 0.0-2.0 W/O.9 L.C (MECH)		1	PULL#1 START 9:40 END 9:15 TIME 15min DEL 15min REC 0.0 LOSS 0.0 UNAC 0.0 TIDEP 9.0	
492.6	4		SLT S.M.H., S.M.D.K.G.E. W/IR, SKY SS. LAM & INCL: BKN W/SLK 3.8-9.5: BKN / PAR SS IN SLT MINTRIV 4.5-5.5		3.8	PULL#2 START 10:00 END 10:20 TIME 20min DEL 20min RAN - REC 5.2 LOSS 0 UNAC 0	
490.7	5		CLS S.M.H., M.H.K.G.R., SLK		7	TIDEP 7.2 DEP 7.2	
489.2	7		SS/SL dispositional deschs. SS bkn WCA, O PAR SS bkn SLK 7.2-9.0, SA 9.0-9.5		3	PULL#3 START 10:30 END 10:50 TIME 20min DEL 20min RAN - REC 2.7 LOSS 0 UNAC 0 TIDEP 9.9 DEP 9.9	
486.9	10		CLS/SLT S.M.H., M.H.K.G.E., mess. M-bld. W/OCC SHY PTG.		10.5	PULL#4 START 11:00 END 11:20 TIME 20min DEL 20min RAN - REC 2.4 LOSS 0 UNAC 0 TIDEP 13.5 DEP 13.5	
479.5	17		SLT SA, A.G., M.H., M.D.K.G.E. W/IR. SPACED. HOR PTG CORE SPIN 15.2 Grinding into		5	PULL#5 START 11:30 END 11:57 TIME 27min DEL 27min RAN - REC 0.9 LOSS 0 UNAC 0 TIDEP 17.0 DEP 17.0	
477.4	18		CLS S.M.H., M.H.K.G.R., SHY OCC (CONT)		6	PULL#6 START 12:00 END 12:18 TIME 18min DEL 18min RAN - REC 9.3 LOSS 0 UNAC 0 TIDEP 17.0 DEP 17.0	
	20				(CONT)	PULL#7 START 13:20	

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PROJECT GALLIPOLIS LOCK DAM HOLE NO. L-25/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE	Hole No.		
PROJECT			INSTALLATION	SHEET 2		
6ALLIPOLIS LOCK & DAM			ORH-CD	OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS (cont)		6	END 13:40 TIME 20 min DEL 20 min
	21		5/5. LENS 1' 20.5.		21.3	RAN — REC 4.3 LOSS 0 UNACC 0
	22					T/DEP 21.8 DEP 22.9 PULL #8
	23				7	START 13:50 END 14:15 TIME 25 min DEL 25 min RAN —
	24					
	25				25.0	REC 4.2 LOSS 0 UNACC 0
470.9						T/DEP 26.0 DEP 26.3 PULL #9
	26		ICL			
	27		S. m.h. m.g.r. - R. 62.		8	START 14:30 END 14:50 TIME 20 min DEL 20 min
	28		SLK. 1.6 KN to 28.0			
	29		becoming R. 62 @ 28.		28.7	RAN — REC 5.2 LOSS 0 UNACC 0
	30		6 KN throughout 1.4 L.C.		9	
	31		6 KN 13.7 f' 30.4			T/DEP 31.2 DEP 31.4 PULL #10
	32				32.3	START 22:50 END 23:15 TIME 25 min DEL 25 min RAN 9.2
	33					
	34				10	REC 7.8 LOSS 1.4 UNACC 1.4
	35					
	36				36.0	
	37					
	38				11	
	39					
	40					
456.0			BOTTOM HOLE		40.4	DEP + T/DEP 40.4
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1969 OF-628-603

PROJECT

6ALLIPOLIS LOCK & DAM

HOLE NO.

L-25/2

DRILLING LOG		DIVISION ORD	INSTALLATION ORH-CD	Hole No. <u>L-26/1</u>	SHEET 1 OF 2 SHEETS	
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>			10. SIZE AND TYPE OF BIT <u>4 1/2"</u>			
2. LOCATION (Coordinates or Station) <u>MONO L-26 STA 0+80.3</u>			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>M.S.L.</u>			
3. DRILLING AGENCY <u>W. L. JACOBS</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>B. - 53 MOBILE</u>			
4. HOLE NO. (As shown on drawing title and file number) <u>L-26/1</u>			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>			
5. NAME OF DRILLER <u>STEVE FRY</u>			14. TOTAL NUMBER CORE BOXES <u>9</u>			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <u>N/A</u>			
7. THICKNESS OF OVERBURDEN <u>0 496.6</u>			16. DATE HOLE STARTED <u>2/1/89</u> COMPLETED <u>2/2/89</u>			
8. DEPTH DRILLED INTO ROCK <u>33.9</u>			17. ELEVATION TOP OF HOLE <u>496.6</u>			
9. TOTAL DEPTH OF HOLE <u>463.2</u>			18. TOTAL CORE RECOVERY FOR BORING <u>32.7</u>			
			19. SIGNATURE OF INSPECTOR <u>JMD</u>			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6			SANDSTONE			PULL #1
495.3	1		m.-cs., m.h., m.g.r. thin bed		Box 1	START 9:45 END 9:55 TIME 10min DRL 10min RAW - REC 5.0 LOSS 0 UNACC 0 DEP 5.0 <u>TIDEP 9.2</u>
491.0	5		ICL mottled - R.B.R., S.-m.h., SLK U.E.S @ CONTACT		Box 2	PULL #2
	6		SANDSTONE			START 10:05 END 10:18 TIME 13min DRL 13min RAW - REC 2.4 LOSS 0 UNACC 0 DEP 10.2
	7		SLY, m.h., m.g.r., F.G. MASS grading into		Box 3	PULL #3
	8					START 10:31 END 11:00 TIME 29min DRL 29min RAW - REC 8.8 LOSS 0.6 UNACC 0.6 <u>TIDEP 14.8</u> <u>DEP 17.0</u>
	9		CLS/SL		Box 4	PULL #4
	10		Interbed, S.-m.h., m.-			START 23:15 END 23:35 TIME 20min (CONT)
	11		dk. g.r.: closely spaced hor. sly PTGS w/IR		Box 5	
	12		g.r. cl. cor. 1 SE.			
	13		SLY 8.9-10.2: bkn w/SLK		Box 6	
	14		11.7-12.3: 0.6 LC BTWN			
	15		10.7 f' 16.0 sq. len 16.9-			
	16		17.8, mostly CLS below			
	17		17.8: R. br ICL lens			
	18		20.2-20.7: 21.6-21.9			
	19		0.9 LC BTWN 22.9 f' 25.0			
	20		w/CORE SPIN @ 23.0			

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-26/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
6ALLIPOLIS LOCK & DAM		ORH-CD		1 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CL5/5LS			PULL #4
	21				6	
	22				22.1	DRL 20 min RAN — REC 2.3 LOSS 0.9 UNACC 0.9
	23					
	24				7	
471.6	25					TIDEPT DEP 25.0
	26		ICL gr. br. - R. br, s-m. h, SLK			PULL #5
	27		1.1 L.C BTWN 25.0 & 32.7		24.3	START 7:25 END 8:25 Time 60 min
	28				8	DRL 60 min RAN 8.7 REC 4.6 LOSS 1.1 UNACC 1.1
	29				29.8	
	30					
	31				9	
	32					
463.9	33		BOTTOM HOLE		32.7	TIDEPT 32.7
	34					DEP 334
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM  
JUN 47

1836-A

(BR 1110-1-1801)

GPO 1980 OF - 625-603

PROJECT

6ALLIPOLIS LOCK & DAM

HOLE NO.

1-2611



DRILLING LOG		DIVISION		INSTALLATION		Hole No. 1-26 1/2	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station)				10. SIZE AND TYPE OF BIT 4 X 5 1/2			
MONO L-26 STA 0+81A				11. DATUM FOR ELEVATION SHOWN (FEET - INCH)			
3. DRILLING AGENCY				12. MANUFACTURER'S DESIGNATION OF DRILL			
W. G. JACOES				B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number)				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
L-26 1/2				N/A		N/A	
5. NAME OF DRILLER				14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
DAVE HARPER				9		N/A	
6. DIRECTION OF HOLE				16. DATE HOLE		STARTED COMPLETED	
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				2/1/89		2/1/89	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
496.9				496.9		32.8	
8. DEPTH DRILLED INTO ROCK				19. SIGNATURE OF INSPECTOR			
33.9				JMD			
9. TOTAL DEPTH OF HOLE							
462.5							

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of washing, etc., if significant)
a	b	c	d	e	f	g
496.9	1		SANDSTONE			PULL #1
	2		GR. M.H., M.C.GR., BEN PN		1	START 7:30
			12 SPACING, GLASSY, FC STAIN			END 7:45
493.9			0.0-1.1, NUM CLAYCY			TIME 15min
	3		THIN STAININGS 22-25			DRL 15min
	4		CLS		3.6	RAN 3.6
			GR. S, SA, UES. FATTY, CL.			REC 3.1
491.9			2.5-2.6, MCH BEN 3.6-3.8			LOSS 0.5
	5		SANDSTONE			UNACC 0.5
	6		GR. M.H., F-VEFGR		2	DCPSO
	7		SLT CNL. CEM 7.2-7.7			PULL #2
488.7					7.7	START 7:57
	8		SLS			END 8:11
	9		GR. S-M.H., SA BEN PN		3	TIME 14min
	10		0.3 SPACING, OCC CLAYCY			DRL 14min
	11		REPAIRED AREN LSM			RAN 4.1
	12		CORE Dia: 8.5-8.6			REC 3.5
	13		CL. 8.0-8.3, 9.9-10.3			LOSS 0.6
	14		SA 15.7-18.3			UNACC 0.6
	15				16.5	PULL #3
	16					START 8:23
	17					END 9:07
	18				4	TIME 44min
	19					DRL 44min
	20					RAN -
						REC 7.0
						LOSS 0.5
					15.2	UNACC 0.5
						DCPSL
						PULL #4
					5	START 9:20
						END 9:37
						TIME 17min
						DRL 17min
						RAN 3.6
					18.9	REC 3.6
						LOSS 0
					6	UNACC 0
						DCPSA

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PROJECT GALLIPOLIS LOCK + DAM HOLE NO. 1-26 1/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET 2 OF 2 SHEETS		
6ALLIPOLIS Lock + Dam		OPH-CD		L-26/2		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SLT			PULL #5
	21				6	START 10:05
979.2	22					END 10:38
	23		CLS		22.6	TIME 33 min
	24		gr, s, sh, BKN PIN			DRL 33 min
	25		0-2 SPACING		7	PAN 8.7
971.1	26		ICL			REC 8.7
	27		occ mottled, w/ gr, sh, gr.			LOSS 0
	28		4K. gr ABOUT 28.0, K-GR		26.5	UNMLD
	29		below, CL ABOVE 30.3		8	TIME 27.5
	30		sh below 30.5 scumby BL			DEP 27.9
	31		25.6-26.0, 27.5-28.3, 28.7		30.2	PULL #6
	32		28.9, 28.9, 29.6, 30.1-30.3, 32.5 - 32.8			START 10:54
463.6	33		BOTTOM HOLE		9	END 11:23
	34					TIME 29 min
	35					DRL 29 min
	36					PAN 5.3
	37					REC 5.3
	38					LOSS 0
	39					UNMLD
	40					TIME 22.8
	41					DEP 33.9
	42					
	43					
	44					

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1980 OF - 828 - 803

PROJECT

6ALLIPOLIS Lock + Dam

HOLE NO.

L-26/2

DRILLING LOG		Division		INSTALLATION		Hole No. L-27/1	
PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinates or Station) MONO L-27 STA 0+52.8				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.			
3. DRILLING AGENCY W.G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-27/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 9		UNDISTURBED N/A	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A		16. DATE HOLE STARTED 2/1/89 COMPLETED 2/1/89	
7. THICKNESS OF OVERBURDEN 0 496.2				17. ELEVATION TOP OF HOLE 496.2		18. TOTAL CORE RECOVERY FOR BORING 32.4	
8. DEPTH DRILLED INTO ROCK 32.6				19. SIGNATURE OF INSPECTOR LMD		19. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE 463.6							
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.2			SANDSTONE			PULL #1	
496.1	1		M-C.G., M.H., M.G.R.			START 4:53	
	2		ICL			END 5:07	
493.9	3		S. RB - MOTTLED, W/SLK			TIME 19 MIN	
	4		SANDSTONE			DRL 14 min	
493.1	5		M-C.G., M.H., M.G.R. THIN			RAN -	
	6		bed.			REC 5.1	
	7		ICL			LOSS -	
	8		S, RBR, UE BKN, W/SLK		3.8	UNACCL -	
488.0	9		UE S 5.1-8.2			T/DEP 9.8	
487.7	10		CL			DEP 5.1	
	11		S. GR			PULL #2	
	12		CLS			START 5:35	
	13		M-DK.G.R., S-M.H., ISQ.			END 5:45	
	14		LENS @ 9.6-9.8 : 9.9-10.1			TIME 10 min	
	15		R.BR W/SLK 10.8-11.6		7.3	DRL 10 min	
	16		grading SHY W/DEPTH			RAN	
	17		W/CL OSCLY SPACED			REC 4.8	
	18		SHY, HOR PTGS W/LOC TR.		3	LOSS 0	
	19		OF GR. CL COA : SHI SA			UNACCL 0	
	20		13.0-13.7, BKN ALONG		10.8	T/DEP 9.4	
	21		HA, IRR FRAC 13.0-13.6:			DEP 9.4	
	22		grading into			PULL #3	
480.6	23		SANDSTONE			START 6:21	
	24		SHY, F.G. M.H., M.G.R. UE,			END 6:50	
478.8	25		SHY LEN 16.1-16.6 grading			TIME 29 min	
478.1	26		INTO		4	DRL 29 min	
	27		CLS			RAN -	
	28		CLY-S-M.H., M-DK.G.R		14.6	REC 8.2	
	29		PTS SHY			LOSS -	
	30		CLS/CLS			UNACCL -	
	31		INTERBED, S-M.H., M		5	PULL #4	
	32		DK.G.R. W/CL OSCLY SPACED			START 7:10	
	33					END 7:25	
	34					TIME 15 min	
	35				18.1	DRL 15 min	
	36					RAN -	
	37				6	REC 3.1	
	38				(CONT)	LOSS -	
	39					UNACCL -	
	40					CONT	

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS LOCK & DAM.

HOLE NO.  
L-27/1

DRILLING LOG (Cont Sheet)				ELEVATION TOP OF HOLE	Hole No. L-2711	
PROJECT				INSTALLATION	SHEET 2 OF 2 SHEETS	
6ALLIPOLIS LOCK DAM				ORH-CD		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS/SLs		4	
	21		HOP, SHY PTGS. OCC w/te			T/DEP+DEP 21.0
	22		GR CL COA / fold		21.4	PULL #5
473.0	23					START 8:20
	24		ICL		7	END 8:46
	25		E. BR, S.-M.A., bkn. w/			Time 26 min
	26		SLK 1.7 L.C. bTWN			DRL 26 min
	27		21.0 f 29.6 O.B.LC		25.2	RAW —
	28		bTWN 29.6 f 32.4			REC 6.9
	29				8	LOSS 1.7
	30					UNACC 1.7
	31					DEP 29.0
	32		BOTTOM HOLE		30.2	PULL #6 T/DEP 29.6
463.8	33					START 9:08
	34					END 9:20
	35					Time 12 min
	36				9	DRL 12 min
	37					RAW —
	38				32.4	REC 2.0 T/DEP 32.4
	39					DEP 32.4
	40					LOSS 0.8
	41					UNACC 0.8
	42					
	43					
	44					

ENG FORM 1836-A (HR 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT 6ALLIPOLIS LOCK DAM

HOLE NO. L-2711

Hole No. L-27/2

DRILLING LOG		Division	INSTALLATION		SHEET 1 OF 2 SHEETS
1. PROJECT <b>GALLIPOLIS Lock + Dam</b>			10. SIZE AND TYPE OF BIT <b>4 X 5 1/2</b>		
2. LOCATION (Coordinates or Station) <b>MoNo L-27 STA 0+98.8</b>			11. DATUM FOR ELEVATION SHOWN (FEET - MSL) <b>M.S.L.</b>		
3. DRILLING AGENCY <b>W. B. JACQUES</b>			12. MANUFACTURER'S DESIGNATION OF GRILL <b>B. - 53 MOBILE</b>		
4. HOLE NO. (As shown on drawing title and file number) <b>L-27/2</b>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED <b>N/A</b> UNDISTURBED <b>N/A</b>
5. NAME OF DRILLER <b>DAVE HARPER</b>			14. TOTAL NUMBER CORE BOXES <b>9</b>		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <b>N/A</b>		
7. THICKNESS OF OVERBURDEN <b>496.4</b>			16. DATE HOLE STARTED <b>2/2/89</b> COMPLETED <b>2/2/89</b>		
8. DEPTH DRILLED INTO ROCK <b>53.9</b>			17. ELEVATION TOP OF HOLE <b>496.4</b>		
9. TOTAL DEPTH OF HOLE <b>462.5</b>			18. TOTAL CORE RECOVERY FOR BORING <b>32.6</b> %		
			19. SIGNATURE OF INSPECTOR <b>JMD</b>		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE LT. GR, M-H, M-L GR BKN PN. 0.3 spacing, occ thin CL stringers 2.5-3.2, FGR below 3.2, BKN 0.0-0.3			PULL #1 START 8:45 END 8:55 TIME 10min DRL 10min RAN 4.3
492.8	2				3.6	REC 4.2 Loss 0.1 UNAK 0.1 TIDP 9.3 DcP 9.0
491.5	4		CLS GR. S. SH.			
	5		CLS GR M.H., SA, SS. S-SM, M.H., FGR. 4.9-5.3 ANG. FRAC. 45° S. 4.7-7 SCUPAL, BKN 6.3-6.8		2	PULL #2 START 9:04 END 10:13 TIME 69min DRL 69min RAN 5.6
489.6	6				6.8	
	7		SANDSTONE GR, M.H, FGR, SLT, CAL. CM. below 7.6		3	REC 5.0 Loss 0 UNAK 0 DcP 9.3
488.1	8					
	9		CLS GR-HGR, S.H, SH. GR. 8.3-9.3, 11.6/12.3/14.4 GR MOTTLED W/ D-BR + GGR. 9.3-11.6, CL ABOVE 9.3 SCUPAL, BKN, NICK 9.3- 9.6, 10.8-11.3		10.4	
483.9	10					
	11				4	PULL #3 START 10:20 END 11:07 TIME 47min DRL 47min RAN 6.2 REC 6.2 Loss 0.7 UNAK 0.7
	12					
	13		CLS GR, S, SH, SCUPAL BKN 18.8-19.3-20.6-20.8 CLS GR, S. SA 19.3-20.0 21.2-21.9		14.1	
	14				5	
	15					
	16				18.2	
	17				6	DcP 18.9
	18				CONT	PULL #4 (CONT)
	19					
	20		(CONT)			

ENG FORM 1836  
MAR 71

PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT  
GALLIPOLIS Lock + Dam

HOLE NO.  
L-27/2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 2-27/2		
PROJECT		INSTALLATION		SHEET 2		
GALLIPOLIS Lock+Dam		ORD-CD		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVER- ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		SL5			PULL #4
	21				6	START 11:10
	22				21.7	END 11:47
	23					TIME 29min
973.5						DDL 29min
	24		CLS		7	RAN 8.9
	25		SE, S., SH.,			REC 8.5
971.1						LOSS 0.9
	26				25.3	UNAK 0.9
	27		ICK			TIDCP 25.1
	28		R. BR, 5-M.H., SH.,			DEP 25.9
	29		OCC SLK, DKABOVA		8	PULL #5
	30		29.0, R-BR Below 29.0			START 12:35
	31				29.0	END 13:10
	32					TIME 35min
463.8						DDL 35min
	33				9	RAN 7.5
	34					REC 6.5
	35					LOSS 1.0
	36					UNAK 1.0
	37				32.6	TIDCP 32.6
	38					DEP 33.9
	39					
	40					
	41					
	42					
	43					
	44					

BNG FORM  
JAN 67

1836-A

(BR 1110-1-1801)

GPO 1966 OF - 628-643

PROJECT

GALLIPOLIS Lock+Dam

HOLE NO.

2-27/2

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
		ORD		ORH-CD		1	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2"			
2. LOCATION (Coordinate or Station) MONO L-28 STA 0+25.8				11. DATE FOR ELEVATION SHOWN (TIME or REL) M.S.L.			
3. DRILLING AGENCY W. G. JACOBS				12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-28/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		14. TOTAL NUMBER CORE BOXES	
				N/A		9	
5. NAME OF DRILLER DAVE HARPER / STEVE FRY				15. ELEVATION GROUND WATER N/A			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE 2/1/89		17. ELEVATION TOP OF HOLE 496.6	
7. THICKNESS OF OVERBURDEN 0 496.6				18. TOTAL CORE RECOVERY FOR BORING 33.3		19. SIGNATURE OF INSPECTOR LMD	
8. DEPTH DRILLED INTO ROCK 33.3							
9. TOTAL DEPTH OF HOLE 463.3							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.6	1		SANDSTONE m.c.g., m.h., m.g. thin bed			PULL #1 START 13:00 END 13:15 TIME 15 min DRL 15 min RAN - REC 4.1 LOSS 0.6 UNAC 0.6	
495.3	2		CLS s.-m.h., m.d.k.g.r., sh occ. sh, o.i. cl. 13-14 ! VE bkn 3.2-4.7 w/o.6 L.C. ! PTGS. OCC SLK. ! kg bkn SLK. FRACES 4.7-6.3		Box 1	TDEP 4.7 DEP 5.0	
	3				39		
	4						
	5						
	6				Box 2	PULL #2 START 13:28 END 13:37 TIME 9 min DRL 9 min RAN - REC 3.6 LOSS 0.5 UNAC 0.5	
490.3	7		ICL s.-m.h., r. br. occ. ve. bkn, SLK 0.5 L.C. bkn 4.3 ! 8.8 : 5.20. 10.2- 10.5 becoming gr @ 11.0		Box 3	TDEP 8.8 DEP 9.3	
	8						
	9						
	10						
	11						
	12				Box 4	PULL #3 START 13:50 END 14:20 TIME 30 min DRL 30 min RAN - REC 6.6 LOSS 0.6 UNAC 0.6	
489.0	13		CLS shy s.-m.h., m.d.k.g.r. o. 4 s.g.r. cl. 12.6-13.0. VE bkn 13.0-16.0 w/o.6 L.C. ! sa 16.5-16.8. VE shy 16.8-17.5, g. rad. in I-10		Box 5	TDEP 6.0	
	14						
	15						
	16						
	17						
	18						
	19					DEP 18.9 PULL #4	
477.1	20		CLS/SLK (CONT)		Box 5	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-28/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.6		Hole No. L-28/1	
PROJECT GALLIPOLIS LOCK DAM			INSTALLATION OCT-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/LS			PULL #4
	21		INTERBED, S-M.H, M-DK		Box 6	START 14:39
	22		GE. CLOSELY SPACED HOR			END 15:00
	23		SKY PTGS, OCC GE. CL COR			TIME 26min
	24		ISE: HUY (1/2) GE. CL SE			DRL 26min
	25		STARTING @ 23.9 HUY GE			RAN -
471.0			CL 25.3-25.6		23.6	REL 9.6
						LOSS 0
						UNACL 0
					Box 7	
	26		ICL			T/D 25.6
	27		S-M.H, SLK, R. BR, DK			DEP 25.9
	28		BR 25.6-270. UEBKN		27.0	PULL #5
	29		25.6-26.3, 0.9 L.C. BKN			START 3:31
	30		25.6-33.3			END 3:58
	31				Box 8	TIME 27min
	32					DRL 27min
	33					RAN -
463.3					30.7	REL 7.0
						LOSS -
						UNACL -
					Box 9	
	34		BOTTOM HOLE		30.3	DEP + T/D 33.3
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(NR 1110-1-1001)

GPO 1968 OF - 625 - 503

PROJECT

GALLIPOLIS LOCK DAM

HOLE NO.

L-28/1



DRILLING LOG		Division	INSTALLATION	Hole No. <u>L-28/1</u>		
PROJECT		ORD	ORH-CD	SHEET		
LOCATION (Coordinates or Station)		OF 2 SHEETS				
1. PROJECT <u>GALLIPOLIS LOCK &amp; DAM</u>		10. SIZE AND TYPE OF BIT <u>4 1/2" I.D.</u>				
2. LOCATION (Coordinates or Station) <u>MONO L-28 STA 0+218</u>		11. DATUM FOR ELEVATION SHOW (TBM or MSL) <u>M.S.L.</u>				
3. DRILLING AGENCY <u>W. G. JACOBS</u>		12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOBILE</u>				
4. HOLE NO. (As shown on drawing title and file number) <u>L-28/1</u>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <u>N/A</u>		14. TOTAL NUMBER CORE BOXES <u>9</u>		
5. NAME OF DRILLER <u>DAVE HARPER / STEVE FRY</u>		15. ELEVATION GROUND WATER <u>N/A</u>		16. DATE HOLE <u>2/2/89</u>		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		17. ELEVATION TOP OF HOLE <u>494.8</u>		18. TOTAL CORE RECOVERY FOR BORING <u>33.4</u>		
7. THICKNESS OF OVERBURDEN <u>0.496.8</u>		19. SIGNATURE OF INSPECTOR <u>LMD</u>		19. DATE HOLE <u>2/2/89</u>		
8. DEPTH DRILLED INTO ROCK <u>33.4</u>		20. SIGNATURE OF INSPECTOR <u>LMD</u>				
9. TOTAL DEPTH OF HOLE <u>463.4</u>						
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE			PULL #1
	2		M.-cg., m.h., m.gr. thin		Box 1	START 13:37
	3		bdd 0.0-2.0 0.3 LC b.t.w.			END 13:50
	4		0.0+2.0			TIME 13min
493.1					3.6	DEL 13min
492.8			CLS			RAN -
	5		S.-m.h.-dk.gr., s.l.k. ptgs. in S.			REC 9.2
	6		SANDSTONE			LOSS 0.3
491.3			SLY, P.g., m.h., m.gr. bkn		Box 2	UNACC 0.3 T/DEP 9.5
	7		(mich 9.5-5.5)			DEP 5.0
	8		SLT/SS			PULL #2
	9		INTERbed, S.-m.h., m.-dk.gr. 've bkn 5.5-			START 13:56
	10		9.2 w/0.4 L.C. 'sa		7.2	END 14:06
	11		7.6 - 8.4			TIME 10min LOSS 0.4
487.6					Box 3	DEL 10min UNACC 0.9
	12		CLS/SLT			RAN -
	13		5-m.h., m.-dk.gr. bkn			REC 4.3
	14		10.8 - 11.2 w/0.3 LC.			T/DEP + DEP 9.2
	15		sq. lens 11.2 - 11.8 m-			PULL #3
	16		closely spaced, hor. ptgs		10.9	START 14:15
	17		w/1 tr. hvy. gr. cl. pld			END 14:45
	18		12.3 - 17.0		Box 4	TIME 30min
479.8						DEL 30min
	19		SANDSTONE			RAN -
	20		shy, P.g., m.h., m.gr.			REC 9.3
478.0			CLS			LOSS 0.3
	21		(CONT)			UNACC 0.3
	22				Box 5	
	23					START 14:15
	24					END 14:45
	25					TIME 30min
	26					DEL 30min
	27					RAN -
	28					REC 9.3
	29					LOSS 0.3
	30					UNACC 0.3
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
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	100					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. L-28/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE		Hole No.	
PROJECT			INSTALLATION		SHEET 2 OF 2 SHEETS	
GALLIPOLIS LOCK & DAM			494.8		L-28/2	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS		Box 6	PULL #5 START 14:55
	21		ccgshy, s-mh, m-dk.gr			END 15:55
	22		Closely spaced hor. sh. pty		21.8	TIME 20min DRL 20min
	23		WTR. gr. cl. cor / Ad shk		Box 7	RAN - REC 6.0
	24		PTGS 19.2-19.7 I.P. gr ICL Lens			LOSS 0.2 UNKLC 0.2
471.6	25		22.1-22.5 0.2 LC btwn 22.5 & 25.0			DEPT + DEP 25.0
	26		ICL		25.5	PULL #5
	27		R. br, bc, gr, s-mh, shk		Box 8	START 15:45 END 16:18
	28					TIME 33min DRL 33min
	29				29.3	RAN - REC 8.4
	30					LOSS # UNKLC 0
	31				Box 9	
	32					
463.9	33		Bottom HOLE		33.9	T/DEP + DEP 34.4
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A

(NR 1110-1-1801)

GPO 1960 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-28/2

DRILLING LOG		DIVISION		INSTALLATION		Hole No. 2-29/1	
PROJECT		ORD		OPH-CP		SHEET 1 OF 2 SHEETS	
1. PROJECT GALLIPOLIS LOCK & DAM				10. SIZE AND TYPE OF BIT 4 1/2" 1/2"			
2. LOCATION (Coordinates or Station) ABNO 1-29 STA 073 A				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.			
3. DRILLING AGENCY W. B. JAMES				12. MANUFACTURER'S DESIGNATION OF DRILL B. 53-MOBILE			
4. HOLE NO. (As shown on drawing title and file number) L-29/1				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN N/A		UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY				14. TOTAL NUMBER CORE BOXES 9			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER N/A			
7. THICKNESS OF OVERBURDEN 496.1				16. DATE HOLE STARTED 2/6/89 COMPLETED 2/6/89			
8. DEPTH DRILLED INTO ROCK 37.3				17. ELEVATION TOP OF HOLE 496.1			
9. TOTAL DEPTH OF HOLE 462.8				18. TOTAL CORE RECOVERY FOR BORING 32.9			
				19. SIGNATURE OF INSPECTOR LMO			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.1			SLS			PULL #1	
495.1	1		GR. S., M.H. SA BKN, SA ABOVE 7' + CLAYEY BELOW 7' SANDSTONE			START 3:47	
	2		GR. M.H. F. VET. GR. HIGHWAY. FRAC 17-2.1 CHL. CEMENT 1:6-2.5		1	END 4:07 TIME 20 MIN DRL 20 MIN RAN 9.6	
493.1	3		SLS/CLS		3.6	REC 4.6 LOSS 0 UNACL 0 T/DCP 4.6 DEP 4.9	
	4		INT. BKN. SLS, GR. S. SH.			PULL #2	
	5		3.0-5.3, 6.5-10.3, 10.5-11.2, 11.9-12.6 13.2-14.8		2	START 4:17 END 4:32 TIME 15 MIN DRL 15 MIN RAN 9.3	
	6		CLS, GR. S. SH, 5.3-6.5		7.2	REC 9.3 LOSS 0 UNACL 0 T/DCP 8.9 DEP 9.8	
	7		10.3-10.5, 11.2-11.9 12.6		3	PULL #3	
	8		13.2, 14.8-15.0, BKN DN			START 4:50 END 5:20 TIME 30 MIN DRL 30 MIN RAN 10.2	
	9		02 SPACING BELOW 9.6			REC 10.2 LOSS 0 UNACL 0	
	10		OCC CH COATING, BKN MCH		10.8	PULL #4	
	11		4.6-5.0, 5.6-5.7, 8.5-8.6, 9.5-9.6			START 4:50 END 5:20 TIME 30 MIN DRL 30 MIN RAN 10.2	
	12		FR. 1-1.6 CHL COATING 8.2-9.1		9	REC 10.2 LOSS 0 UNACL 0	
	13		LTR-BR. TINT 10.0-11.3		19.6	PULL #5	
491.1	14		SLS			START 4:50 END 5:20 TIME 30 MIN DRL 30 MIN RAN 10.2	
	15		GR. S-M.H. SA C15.0-18.0		5	REC 10.2 LOSS 0 UNACL 0	
	16		CLS SPAM 17.9-18.0			PULL #6	
	17		CL Below 18.0		18.3	START 4:50 END 5:20 TIME 30 MIN DRL 30 MIN RAN 10.2	
	18				6	REC 10.2 LOSS 0 UNACL 0	
476.5	19		CLS (CONT)		(CONT)	T/DCP 15.1 DEP 14.9	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT GALLIPOLIS LOCKS & DAM HOLE NO. 2-29/1

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
GALLIPOLIS Lock + Dam		02H-CD		2 OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	20		CLS			PULL #4
	21		GR. S. SH, 19.6-22.7, BE		6	START 5:39
	22		PN OCC BL COATING, w/SPK			END 6:06
473.9			0.1 19.6-20.3, 20.8-22.7		22.7	TIME 32min
	23		GR. S. SH (22.7-23.7) R. BR			DRI 32min
472.9			BELOW 23.9			RAN 10.5
	24		ICL		7	REC 10.5
	25					LOSS 0
	26		DK GR - R. BR, S. SH			UNAC 0
	27		TO CLAYY, OCCSLI		26.6	
	28		DK GR. ABOVE 26.6 - R. BR		8	PULL #5
	29		Below			START 6:35
	30				29.6	END 6:51
	31					TIME 16min
	32				9	DRI 16min
463.7			BOTTOM HOLE			RAN 2.8
	33					REC 0
	34				32.9	LOSS 0
	35					UNAC
	36					TIDCP 32.9
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ING FORM  
A17 1836-A

(NR 1110-1-1801)

GPO 1900 OF - 628 - 603

PROJECT  
GALLIPOLIS Lock + Dam

HOLE NO.  
L-29/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. <i>5112</i>	
1. PROJECT <b>GALLIPOLIS Lock &amp; DAM</b>		3. DRILLING AGENCY <b>W. B. JAGUES</b>		10. SIZE AND TYPE OF BIT <b>4 X 5 1/2"</b>		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station) <b>MONO L-29 STA 0+1 A</b>		4. HOLE NO. (As shown on drawing title and file number) <b>L-29/2</b>		11. DATUM FOR ELEVATION SHOWN (TBM or BENCH) <b>M.S.L.</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-53 MOBILE</b>	
5. NAME OF DRILLER <b>STEVE FRY</b>		6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN <b>N/A</b>		14. TOTAL NUMBER CORE BOXES <b>9</b>	
7. THICKNESS OF OVERBURDEN <b>0 496.8</b>		8. DEPTH DRILLED INTO ROCK <b>33.5</b>		15. ELEVATION GROUND WATER <b>N/A</b>		16. DATE HOLE STARTED <b>2/6/89</b> COMPLETED <b>2/6/89</b>	
9. TOTAL DEPTH OF HOLE <b>463.3</b>		17. ELEVATION TOP OF HOLE <b>496.8</b>		18. TOTAL CORE RECOVERY FOR BORING <b>33.5</b>		19. SIGNATURE OF INSPECTOR <b>JMD</b>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
496.8	1		SANDSTONE LTGR, M. N, M-CGR. Flmgy			PULL #1	
	2		Bd, BKN PN. 0.1 SPACING FE SURFACE STAIN 0.0-0.9		1	START 20:50 END 21:00 TIME 10min DRL 10min RAW 5.0 REC 4.8 LOSS 0.2 UNAC 0.2 DPT+T/DCP 5.0	
494.9	3		CLS				
	4		dk gr-gr, s, sh		3.7		
	5		dk gr, 30-6.0: gr. 2.9-3.0				
	6		6.0-6.8, gr w locc mottled		2	PULL #2	
	7		gn. gr. Below 6.8, BKN			START 21:10 END 21:27 TIME 17min DRL 17min RAW 5.1 REC 4.2 LOSS 0.9 UNAC 0.9 DCP 9.9 T/DCP 9.8	
	8		w locc loss 3.7-5.0, 8.8-9.0		7.3		
	9		SLK 6.7, 6.9 6.7 and 7.1-		3		
496.5	10		7.3 @ 45°			PULL #3	
	11		SLS/CLS		11.2	START 21:35 END 22:15 TIME 40min DRL 40min RAW 10.0 REC 9.9 LOSS 0.1 UNAC 0.1	
	12		Int. p. b. h. SLS, gr s. sh.				
	13		w locc cl coating, BKN		4		
	14		PN .8 SPACING, BKN 14.6-				
	15		14.8. Spacing w locc coating		15.2		
	16		24.2-24.6, CLS, GR.S, SH,				
	17		11.9-13.2, 18.1-18.7, 22.0		5		
	18		23.5, Sa 16.7-17.3				
	19				19.0		
	20		(CONT)		6 (CONT)	DPT+T/DCP 19.9	

ENG FORM 1836  
MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT  
GALLIPOLIS Lock & Dam L-29/2

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.8		Hole No. L-29/2	
PROJECT GALLIPOLIS LOCK & DAM			INSTALLATION DPH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLT/CLS			PULL #4
	21		bkn pns ~ 0.1 w/ thin		6	START 22:30
	22		CL COATING 18.9-22.0, 12.8			END 22:57
	23		13.2		23.6	TIME 27min
	24					DEL 27min
472.2						RAW 9.9
						REC 9.9
					7	LOSS 0
						UNACL 0
	25		ICL			
	26		R. BR - dk gr, S. clayey		26.9	
	27		occ sh, occ. SLT,			
	28		R. BR. 29.6-25.2 + Below		8	PULL #5
	29		29.9, dk gr. 25.2-29.9			START 23:16
	30		bkn w/ loss		29.9	END 23:33
	31		25.8-26.1, much 29.9-29.8			TIME 17min
	32		30.8-31.1, 32.1-32.3			DEL 17min
	33				9	RAW 3.7
463.3						REC 3.2
						LOSS 0.5
						UNACL 0.5
			BOTTOM HOLE		33.5	DEPT T/DCP 33.5
	34					
	35					
	36					
	37					
	38					
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ENG FORM  
JUN 67

1836-A

(NR 1110-1-1801)

GPO 1960 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK & DAM

HOLE NO.

L-29/2



Hole No. UM 65/1

DRILLING LOG		Division <u>OED</u>	INSTALLATION <u>OEN-ED</u>	SHEET 1 OF 2 SHEETS
1. PROJECT <u>GALLIPOLIS LOCK 1 DAM</u>			10. SIZE AND TYPE OF BIT <u>7-15/16"</u>	
2. LOCATION (Coordinates or Station) <u>MDW 41952 STA 2+55.68</u>			11. DATUM FOR ELEVATION SHOWN (TIME & DATE) <u>M.S.L.</u>	
3. DRILLING AGENCY <u>W. B. JAMES</u>			12. MANUFACTURER'S DESIGNATION OF DRILL <u>B-53 MOB. LE</u>	
4. HOLE NO. (As shown on drawing title and file number) <u>UM 65/1</u>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED <u>N/A</u> UNDISTURBED <u>N/A</u>	
5. NAME OF DRILLER <u>DAVID HAEFER</u>			14. TOTAL NUMBER CORE BOXES <u>8</u>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER <u>N/A</u>	
7. THICKNESS OF OVERBURDEN <u>0</u> <u>496.6</u>			16. DATE HOLE STARTED <u>1/31/89</u> COMPLETED <u>1/31/89</u>	
8. DEPTH DRILLED INTO ROCK <u>32.8</u>			17. ELEVATION TOP OF HOLE <u>496.6</u>	
9. TOTAL DEPTH OF HOLE <u>463.8</u>			18. TOTAL CORE RECOVERY FOR BORING <u>32.8</u> %	
			19. SIGNATURE OF INSPECTOR <u>IMD</u>	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE M.C.S., M.A., M.G.R.		Box 1	PULL #1 START 8:00 END 8:13 TIME 13 min DRL 13 min RAN - REC 4.9 LOSS 0 UNAC 0
492.3	4		CL			
491.8			S.L.G.R. FAT			
	5		CLS		Box 2	PULL #2 START 8:20 END 8:34 TIME 14 min DRL 14 min RAN - REC 4.3 LOSS 0 UNAC 0 T/DEP 9.2 DEP 9.6
	6		S.M.A., M.D.K.G.R. W/CLL			
	7		SHY PTG: S.S. LENS 6.5-6.7			
489.3			S.G.R. CL @ CONTACT			
	8		SANDSTONE			
	9		SHY, A.G., M.A., M.G.R.,		Box 3	PULL #3 START 8:45 END 9:00 TIME 15 min DRL 15 min RAN - REC 4.0 LOSS 0 UNAC 0 T/DEP 13.2 DEP 14.0
	10		MASS CARB. PTG @ 10.7			
	11		T 11.0			
	12		SMOOTH, SHY COG, HOR			
489.7			PTG @ 11.7			
	13		CLS		Box 4	PULL #4 START 9:12 END 9:40 TIME 18 min DRL 18 min RAN - REC 6.5 LOSS 1.1 UNAC 1.1
	14		SHY, S.M.A., M.D.K.G.R.			
	15		W/M - CLOSELY SPACED			
	16		HOR PTG: S OCC CL COG, :			
	17		CORE SPUN @ 13.6 & 15.1			
	18		1.1 L.C. BTWN 13.2 & 17.0			
479.6			SANDSTONE			
	19		U.C. SHY, A.G., M.A., M.S.,		Box 5	
	20		PTG ALONG HOR. SHY			
			LAM @ 18.7 IRR, U.C. KEY			
476.8			FRAC 18.7-19.0 GRADING INTO			
			CLS			
					CONT	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK 1 DAM

HOLE NO. UM 65/1



DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.6	Hole No. 4MG5/1		
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH-CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	DEPT/TIDEP 20.8
	21		Shy, s.-m.h., m.-dkgr.			PULL #5
	22		W/loc. SLT LENS 1' LAM			START 9:50
	23		TR. gr. CL. COG. LENS		22.8	END 10:33
	24		GRADING INTO		Box 7	TIME 93 min
	25					DRL 43 min
	26					RAN -
	27					REC 6.1
	28					LOSS 2.4
468.1						UNACC 2.4
	29		ICL		26.5	
	30		R, br, s.-m.h., SLK		Box 8	TIDEP 29.3
	31		6KN 28.5-29.3 w/2.4			DEP 29.9
	32		L.C., 6KN 29.3-32.8			PULL #6
463.8			W/O.7 L.C.			START 11:10 RAN -
	33				32.8	END 11:33 REC 4.2
	34					TIME 23 min LOSS 0.7
	35					DRL 23 min UNACC 0.7
	36					TIDEP 32.8
	37					DEP 32.9
	38					
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ENG FORM 1836-A

(ER 1110-1-1801)

GPO 1980 OF-628-603

PROJECT  
Gallipolis Lock & Dam

HOLE NO.  
4MG5/1

DRILLING LOG		DIVISION		INSTALLATION		Hole No. DMGS/1	
1. PROJECT		ORD		ORH-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinate or Station)		Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT		4 1/2, 5	
3. DRILLING AGENCY		W. G. JARVIS CO		11. DAYUM FOR ELEVATION SHOWN (FSL or MSL)		MSL	
4. HOLE NO. (As shown on drawing title and file number)		DMGS/1		12. MANUFACTURER'S DESIGNATION OF DRILL		B-57	
5. NAME OF DRILLER		WAYNE TICE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED NA UNDISTURBED NA	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		9	
7. THICKNESS OF OVERBURDEN		496.9		15. ELEVATION GROUND WATER		NA	
8. DEPTH DRILLED INTO ROCK		32.9		16. DATE HOLE		STARTED 1-16-89 COMPLETED 1/16/89	
9. TOTAL DEPTH OF HOLE		32.9		17. ELEVATION TOP OF HOLE		496.9	
				18. TOTAL CORE RECOVERY FOR BORING		32.9	
				19. SIGNATURE OF INSPECTOR		JET	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
496.9	1		SS. lt. g. hdy. med to c.g., occ. mic., Cal. Cem. num. thin Cl stringers 1.4.0-4.1		1	Pull #1 START 13.20 End 13.28 Time 8 Dri 8 Ran 4.7 Rec 4.7 LOSS 0 UNACC 0	
	2				3.8		
	3					TI & TP 4.7	
	4					Pull #2	
	5				2	START 13.57 End 14.00 Time 23 Dri 23	
	6				7.4	Ran 10 Rec 9.7 LOSS 03 UNACC 03	
488.9	7						
	8						
	9		SLS. g med. hdy. s grad. int. bdd. w/ f. 3% ss throughout b.k.n. w/ cl. coating 8.0, 8.1, 8.6, 8.7		3		
	10						
	11		v.f. g. ss. 8.2-9.6		11.0		
	12		12-7-13.7-15.9, 17.1, 18.4, 19.6				
	13				4		
	14						
	15				14.7	TI & TP 14.7	
	16					Pull #3	
	17				5	START 14.20 End 14.40 Time 20 Dri 20 Ran 9.9 Rec 9.9 LOSS 0 UNACC 0	
	18				18.4		
	19				6		
477.3					(CONT)	(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.  
(TRANSLUCENT)

PROJECT Gallipolis Lock & Dam HOLE NO. DMGS/1

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 496.9	Hole No. DMGS /1		
PROJECT Gallipolis Lock & Dam			INSTALLATION ORH - CD	SHEET 2 OF 2 SHEETS		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				6	
	22				22.3	
	23					
	24				7	IP 24.2
	25					TI 24.7
	26				26.0	Pull # 4 START 15.30 End 15.40 Time 10 Drl 10 Ran 8.9 REC 8.9 Loss 0 Unacc 0
	27					
	28				8	
	29					
466.9	30				29.7	
	31		SS. lt gr. mod. hd, f. to med. g. mic. cal. Cemented: 21.9 - 23.8 Few, thin small, cl. str. 21.9 - 22.1 sh. scam 26.6 - 26.7, 29.4, 29.6 - 29.7 29.8.		9	
	32					
	33				33.5	IP 33.5
463.0	34					
	35		ICL. dr. gr. s, cl. num. frac. w/ sil. n. bri. below 32.7			TI 34.7
	36					
	37					

ENG FORM 1836-A

(ER 1110-1-1801)

GPO 1980 OF - 628 - 603

PROJECT

Gallipolis Lock & Dam

HOLE NO.

DMGS /1

DRILLING LOG		DIVISION		INSTALLATION		FIGURE NO.	
1. PROJECT <b>GALLIPOLIS LOCK DAM</b>		ORD		ORN-CD		SHEET 1 OF 2 SHEETS	
2. LOCATION (Coordinates or Station) <b>MONO DLB3-2 / STA 9+25.61 OFFSET 13'</b>		3. DRILLING AGENCY <b>W. G. JAGUES</b>		10. SIZE AND TYPE OF BIT <b>4" 154"</b>		11. DATUM FOR ELEVATION SHOWN (FEM or MSL) <b>MSL</b>	
4. HOLE NO. (As shown on drawing title and file number) <b>DLB3/1</b>		5. NAME OF DRILLER <b>WAYNE TICE</b>		12. MANUFACTURER'S DESIGNATION OF DRILL <b>B-57 MOBILE</b>		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN <b>0 497.2</b>		14. TOTAL NUMBER CORE BOXES <b>11</b>		15. ELEVATION GROUND WATER <b>N/A</b>	
8. DEPTH DRILLED INTO ROCK <b>34.7</b>		9. TOTAL DEPTH OF HOLE <b>462.5</b>		16. DATE HOLE <b>1/16/89</b>		17. ELEVATION TOP OF HOLE <b>497.2</b>	
				18. TOTAL CORE RECOVERY FOR BORING <b>34.7</b>		19. SIGNATURE OF INSPECTOR <b>LMD</b>	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
497.2	1		SANDSTONE		Box 1	PULL #1	
	2		M. C. G., m. h., m. g. a			START 9:15	
	3					END 9:30	
	4					TIME 15 min	
	5					DRL 15 min	
					3.5	RAN 5.0	
						REC 4.8	
						LOSS 0	
						UNACL 0	
491.7					Box 2	DEP 5.0 T/DEP 4.8	
	6		CLS			PULL #2	
490.5			M. DR. GR, S. Mh., S. H.			START 9:40	
	7					END 10:03	
	8					TIME 23 min	
	9					DRL 23 min	
	10					RAN 2.9	
	11					REC 2.9	
	12					LOSS 0.1	
						UNACL 0.1	
						DEP 7.4 T/DEP 7.4	
489.4					Box 3	PULL #3	
	13					START 10:12	
	14					END 10:27	
	15					TIME 15 min	
	16					DRL 15 min	
	17					RAN 2.9	
	18					REC 2.9	
	19					LOSS 0.4	
	20					UNACL 0.4 T/DEP 12.7	
					Box 4	PULL #4	
						START 10:34	
						END 10:56	
						TIME 17 min	
						DRL 17 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #5	
						START 10:56	
						END 11:18	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #6	
						START 11:18	
						END 11:40	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #7	
						START 11:40	
						END 12:02	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #8	
						START 12:02	
						END 12:24	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #9	
						START 12:24	
						END 12:46	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #10	
						START 12:46	
						END 13:08	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #11	
						START 13:08	
						END 13:30	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #12	
						START 13:30	
						END 13:52	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #13	
						START 13:52	
						END 14:14	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #14	
						START 14:14	
						END 14:36	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #15	
						START 14:36	
						END 14:58	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #16	
						START 14:58	
						END 15:20	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #17	
						START 15:20	
						END 15:42	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #18	
						START 15:42	
						END 16:04	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #19	
						START 16:04	
						END 16:26	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #20	
						START 16:26	
						END 16:48	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #21	
						START 16:48	
						END 17:10	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #22	
						START 17:10	
						END 17:32	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #23	
						START 17:32	
						END 17:54	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #24	
						START 17:54	
						END 18:16	
						TIME 22 min	
						DRL 22 min	
						RAN 1.1	
						REC 1.1	
						LOSS 1.1	
						UNACL 1.1	
						PULL #25	

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.	
PROJECT		INSTALLATION		SHEET	
Gallipolis Lock + Dam		ORH-CD		Z	
ELEVATION		DEPTH		LEGEND	
CLASSIFICATION OF MATERIALS (Description)		% CORE RECOVERY		BOX OR SAMPLE NO.	
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)					
a	b	c	d	e	f
476.9	20				Box 6
	21		SANDSTONE		20.7
	22		shy, fig, m.h., m.g.r.		Box 7
	23		within dk. gr shy lam.		START 11:10
	24		occ ptg along shy, lam.		END 11:35
	25				TIME 25 min
	26				DRL 25 min
	27				RAN —
	28				REC 9.5
	29				LOSS 0
	30				UNACC 0
	31				Box 8
	32				28.2
	33				Box 9
	34				29.9
	35				DEPT + T/DEP 29.9
	36				PULL#
	37				START 11:45
	38				END 12:16
	39				TIME 31 min
	40				DRL 31 min
	41				RAN —
	42				Box 10
	43				REC 8.4
	44				LOSS 0
	45				UNACC 0
	46				Box 11
	47				30.0
	48				Box 12
	49				30.7
	50				DEPT + T/DEP 30.7
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DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE 497.0		Hole No. DLBS/2	
PROJECT GALLIPOLIS LOCK+DAM			INSTALLATION GRH-CD		SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLT (cont)		Box 6	PULL #5
	21					START 19:35
	22					END 15:10
	23					TIME 35min
	24					DEL 35min
472.9	25				23.1	RAN -
	26					REC 7.5
	27				Box 7	LOSS 1.0
	28					UNACE 1.0
	29		ICL			
	30		GR-RED-S-SLT			
	31		RED below 26.9			
	32		0.8 LOSS 26.5-32.5		24.6	
	33					
	34				Box 8	TIDEP 27.6
	35					DEP 27.9
	36					PULL #6
	37					START 3:30
	38					END 3:40
	39				29.7	TIME 10min
	40					DEL 10min
	41				Box 9	RAN -
	42					REC 4.6
	43					LOSS 0.8
464.5	44		Bottom HOLE		32.5	UNACE 0.8
	45					DEP 31.7
	46					TIDEP 33.0
	47					
	48					
	49					
	50					
	51					
	52					
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1836-A

(ER 1110-1-1801)

GPO 1990 OF - 628 - 603

PROJECT

GALLIPOLIS LOCK+DAM

HOLE NO.

DLBS/2

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS		
1. PROJECT <b>Gallipolis Lock &amp; Dam</b>		<b>ORD</b>	<b>ORH-CD</b>	10. SIZE AND TYPE OF BIT <b>3" x 5 1/2"</b>		
2. LOCATION (Coordinates or Station) <b>Z+80.08 Aux Lock Floor Pavement</b>			<b>MSL</b>	11. DATUM FOR ELEVATION SHOWN (TBM = MSL)		
3. DRILLING AGENCY <b>HAYWARD BAKER</b>			<b>ACKOR</b>	12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title) and file number <b>EXPI</b>				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <b>N/A</b>		
5. NAME OF DRILLER <b>STEVE FRYE</b>				14. TOTAL NUMBER CORE BOXES <b>7</b>		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <input type="checkbox"/> DEG. FROM VERT.				15. ELEVATION GROUND WATER <b>N/A</b>		
7. THICKNESS OF OVERBURDEN <b>0</b>				16. DATE HOLE <b>10/8/91</b>		
8. DEPTH DRILLED INTO ROCK <b>19.94'</b>				17. ELEVATION TOP OF HOLE <b>48.00</b>		
9. TOTAL DEPTH OF HOLE <b>29.5'</b>				18. TOTAL CORE RECOVERY FOR BORING <b>99.95</b>		
				19. SIGNATURE OF INSPECTOR <b>Larry M. Dabun</b>		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
-36.00	1		CONCRETE 486.00 To 481.44	100%		PULL #1 START 0712 RAN 16" TL 16" END 0731 REC 16" TP 16" TIME 19min LOSS 0 DWR good DRL 17min UNAC 0 COLOR GR
	2			100%	Box 1	PULL #2 START 0740 REC 16" DWR good END 0756 REC 16" DWR good TIME 16min UNAC 0 COLOR GR DRL 15min UNAC 0 DWR good RAN 16" TP 32"
	3			99%	482.94	PULL #3 START 0803 REC 16" TL 48" END 0813 REC 16" TP 48" TIME 10min UNAC 0 DWR good DRL 19min UNAC 0 DWR good RAN 16"
481.44	4			100%		PULL #4 START 0839 REC 16" UNAC 0 END 0858 REC 16" UNAC 0 TIME 19min TP 6" DRL 24min TP 6" RAN 24" DWR good REC 24" COLOR GR
	5		CLAYSTONE 481.44 To 478.89 GR/SN, Fg., S.	100%	Box 2	PULL #5 START 0927 REC 16" UNAC 0 END 1005 REC 16" UNAC 0 TIME 38min TP 48" DRL 30min TP 48" RAN 4'10" REC 4'6" LOSS 0 UNAC 0 TL 10'10" TP 10'6" DWR good COLOR GR
	6			93%	478.99	PULL #6 START 1019 REC 16" UNAC 0 END 1102 REC 16" UNAC 0 TIME 42min TP 48" DRL 35min TP 48" RAN 4'0" REC 4'4" LOSS 0 UNAC 0 TL 14'6" TP 14'10" DWR good COLOR GR
	7		SHALE 478.89 To 468.23 SR/SN, Fg. HARDNESS INCREASING FROM SOFT TO MEDIUM W/DEPTH CL DECREASING W/DEPTH R/BR ZONE 473.74- 474.00	107%	Box 4	PULL #7 START 1126 REC 16" UNAC 0 END 1250 REC 16" UNAC 0 TIME 54min TP 48" DRL 40min TP 48" RAN 4'10" REC 4'10" LOSS 10" UNAC 0 TL 19'6" TP 19'6" DWR good COLOR R/BR
	8			99.83	467.73	
	9			19.7'	Box 6	
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
468.23	18		CLAYSTONE 468.23 To 466.95 GR/SN, w/br BONE .5" LOSS IN THICKNESS Fg., V.S., CORE LOSS 170% SLK .5" TO 1" IN SIZE THROUGHOUT			
466.95	19					
	20		CONT			

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PROJECT  
**Gallipolis Lock & Dam**

HOLE NO.  
**EXPI**



LOG (Cont Sheet)		486 02		Hole No. EXPI	
21's Lock! Dam		INSTALLATION		SHEET 2 OF 2 SHEETS	
LEGEND		CLASSIFICATION OF MATERIALS (Description)		REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS
b	c	d	e	f	g
20'		ICL		Box 4	Pull AB
21'		461.45 To 461.50		4'	START 1300
		R/C w/white/gray			END 1905
		VEIN OF CLAY THROUGHOUT			TIME 45min
		Fg. 5 To M.H.	99.93	463.73	DRL 50min
				Box 5	RAN 4'0"
					REL 4'6"
					LOSS 4'
				2.23'	UNACC 0
					TL 24.50'
					TP 24.50'
					DWR Good
		Bottom Hole		461.50	COLOR R/B
22'					
23'					
24'					
25'					
26'					
27'					
28'					
29'					
30'					

1836-A

(HR 1110-1-1801)

GPO 1980 OF-628-803

PROJECT

Gallipolis Lock! Dam

HOLE NO.

EXPI

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
1. PROJECT		ORD		CPH-CD		OF 2 SHEETS	
2. LOCATION (Coordinates or Station)		6+32.58 LOCK LATERAL N 5'00"		10. SIZE AND TYPE OF BIT		3 X 5 1/2"	
3. DRILLING AGENCY		HAYWARD BAKER		11. DATUM FOR ELEVATION SHOWN (TSN = MSL)		M.S.L.	
4. HOLE NO. (As shown on drawing title and file number)		EXP II		12. MANUFACTURER'S DESIGNATION OF DRILL		ACKOR	
5. NAME OF DRILLER		STEVE FAYE		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED N/A UNDISTURBED N/A	
6. DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		6	
7. THICKNESS OF OVERBURDEN		0		15. ELEVATION GROUND WATER		N/A	
8. DEPTH DRILLED INTO ROCK		21.17		16. DATE HOLE		STARTED 10/9/91 COMPLETED 10/10/91	
9. TOTAL DEPTH OF HOLE		24.25		17. ELEVATION TOP OF HOLE		488.50	
				18. TOTAL CORE RECOVERY FOR BORING		99.79%	
				19. SIGNATURE OF INSPECTOR		LARRY J. WILSON	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
488.00	1		CONCRETE 488.50 To 484.92	100%	Box 1	START 1028 FULL #1 END 1038 REC 15.3 DWR 9min TIME 11min UNALC 5 DEL 11min TL 15.3 RAN 16" TP 15.0"	
484.92	2			486.7	3.42		
484.58	3		CLAYSTONE 484.92 To 484.58 Top 12 Badly weathered AND BKN s.lgn, Fg, S.	100%	489.58	START 1044 FULL #2 END 1103 REC 5.9 TIME 18min UNALC 8 DEL 17min TP 29.4 RAN 25" DWR 9min REC 22.5 COLOR 3R	
	4		SILTSTONE 484.58 To 476.14 s.lgn, Fg, m.H, small 1/8 to 1/16 FRACTURES Top 2"	100%	489.58	START 1110 FULL #3 END 1129 REC 5.4 TIME 19min TL 5.4 DEL 19min TP 38.5 RAN 25" DWR 9min REC 23" COLOR 3R	
	5			482.95	3.7		
	6						
	7			100%	480.88	START 1140 FULL #4 END 1245 REC 4.4 TIME 65min TL 4.4 DEL 35min TP 14.58 RAN 4'10" DWR 9min REC 4'4 1/2 COLOR 3R	
479.40	8				3.27		
	9		SANDSTONE 479.40 To 469.75 gr lwh, TL, m to Fg, m.H, CLAYSCAMS 479.40, 479.12, 476.53	100%	475.54	START 1245 FULL #5 END 1329 REC 4.4 TIME 20min TL 4.4 DEL 20min TP 14.58 RAN 4.92 DWR 9min REC 4.56 COLOR 3R	
	10				479.51		
	11			100%	Box 4	START 1345 FULL #6 END 1416 REC 4.4 TIME 31min TL 4.4 DEL 25min TP 19.91 RAN 4'10" DWR 9min REC 5'9 1/2 COLOR 3R	
	12				3.86		
	13						
	14				475.75		
	15			99.79%	473.75		
	16				4.36		
	17						
469.75	18				469.37		
469.15	19		INTERBED CL. ISS. S.S. white lgr, m.F, m.H CL s.lgn Fg, U.E. 3. Lost 1.97' CORL 469.37 to 467.65	99.51%	Box 2	START 1430 FULL #7 END 1451 REC 3.1 TIME 21min TL 3.1 DEL 10min TP 1.97 RAN 3' REC 1.97 DWR 3min (CONT)	
	20				99.51%	(CONT)	

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PROJECT  
6+32.58 LOCK LATERAL N 5'00" EXP II

LOG (Cont Sheet)		ELEVATION TOP OF HOLE 488.00		Hole No. <i>EXPII</i>	
ipolis LOCKE DAM		INSTALLATION OPH-CD		SHEET 2 OF 2 SHEETS	
DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
20		ICL		80% 7.9	Pull #8
21		R/R, V.E.S., LAST RUN	Φ		START 0715
22		TOTAL LOSS			END 0802
23					T.M.E. 47 min
24					DRL 40 min
25					RAH 9.0"
26					REC 4
27					LOSS 3'10"
28					UNAC 1'
29					TL 29.73
30					TP 25.76
					DWR 6000
					COLOR R.16R
		BOTTOM HOLE	46325	413.75	

336-A (SR 1110-1-1801)

GPO 1980 OF - 628-603

PROJECT

ipolis LOCKE DAM

HOLE NO.

EXPII